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MANAGEMENT

JUNE 1958
VOLUME 23 No. 6

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NOTICE TO ALL MEMBERS

Proposed Changes in By-Laws:

AS POSTED in the May issue of ADVANCED MANAGEMENT, the following proposed changes in the By-Laws will again be voted upon by the National Directors, in June, in line with constitutional provisions. They were originally approved by the Directors at the Board Meeting on April 26th, following study and recommendations by the National Membership Grades Committee, the Activities and Policies Study Committee, the Finance Committee, and the Long Range Planning Committee.

Section I.—Membership—Items b, c, and g.

Section II.—Initiation Fees.

Section III.—Annual Dues.

1. Eliminate the Associate Grade.

2. Establish a Professorial and Civic Grade with dues at $15.00 a year and an entrance fee of $5.00. The definitions of the two categories comprising this grade are:

a. PROFESSORIAL—Administrators and faculty members of non-profit educational Institutions who function in a capacity that directly influences the development and preparation of others for assuming responsable positions in one or more of the several areas of scientific management.

b. CIVIC—Executives, administrators, and professionals who hold responsible positions directly in Federal, State or local government or other non-profit civic organizations, or individuals who are in preparation for assignment to such positions, and who are required to have had extensive education, training or experience or some combination thereof, which qualifies them to exercise independent judgment in the application of the principles, theories, and techniques of scientific management in government administration or civic affairs.

3. Increase the age limit for the Junior Grade from the present 26 years to 30 years.

4. Retain the Fellow Grade but modify the requirements of qualification for the grade as follows:

Any member, upon the petition of his Chapter Board of Directors or the National Board of Directors, may be elected a Fellow for contribution to the advancement of management through activities in the Society, by an affirmative vote at a National Board Meeting after he has met the qualifications listed below:

a. has been a member of the Society for ten years and,

b. has been an elected National Officer, or an appointed National Vice President, or a Chapter President who has served the National as an Officer, Director or Chairman of a major committee and,

c. has served as a National or Chapter Officer (elective or appointive) for five years.

Section V. Board of Directors—Meetings.
Section VI. Executive Committee—Meetings.

That there be one meeting of all National Directors of the Chapters in April, for budget and policy considerations; and that there be periodic meetings of the National Executive Committee throughout the fiscal year—to be composed primarily of the elected National Officers and the elected Regional Vice Presidents.

Section VIII. Officers
(An addition to Paragraph 2)
The employment and compensation of the Executive Vice President will be determined by a Committee comprised of the President, 1st Vice President, Chairman of the Board, and the two immediate consenting past Board Chairman.

CHAPTER MEMBERSHIP STANDINGS

as of May 1st, 1958

New York	354	Binghamton	104	Bridgeport	61	Northland	41
Philadelphia	297	Raritan Valley	104	Dallas	61	No. Alabama	39
Northern N. J.	290	Greensboro	103	Chattanooga	59	S. C. Valley	36
Cincinnati	272	Worcester	103	Poughkeepsie	57	No. Miss.	35
Lancaster	266	Wilmington	99	Hartford	53	Venezuela	35
Pittsburgh	260	Greenville	96	London, Ont.	53	Georgia	33
Chicago	235	San Diego	94	Richmond	53	Nashville	33
Detroit	201	Knoxville	93	Twin City	53	Athens	32
Wash., D. C.	191	Hudson Valley	90	Alabama	51	Cent. Penna.	32
Cleveland	188	Sacramento	88	Long Island	51	St. Louis	30
Milwaukee	180	Baltimore	84	Mohawk Valley	51	New Orleans	29
Boston	176	New Haven	84	Cent. Penna.	50	Orange Coast	29
San Francisco	145	Puerto Rico	72	Calumet	47	Portland	27
Los Angeles	140	Columbus	70	West. Mass.	46	No. Penna.	26
Indianapolis	132	Dayton	70	Westchester	45	Madison	25
Western N. C.	124	Reading	69	Clearing	44	Stamford	10
Montreal	119	Hawaii	65	Fox Valley	44	Louisville	8
Kansas City	109	East Bay	64	Lehigh Valley	44	Non-Chapter	104
Providence	108	Charlotte	63	Bergen County	42	Non-Resident	83
		Tr. Del. Val.	63				

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S.A.M Constitution

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Editorial Advisory Board: The S.A.M Functional and other National Officers also serve in this capacity.

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ADVANCED MANAGEMENT, published monthly by the Society for the Advancement of Management, Inc., 74 Fifth Avenue, New York 11, N. Y., is successor to The Society for the Advancement of Management Journal, the Bulletin of the Taylor Society and of The Society of Industrial Engineers. Reentered as second-class matter, December 23, 1949, at the Post Office at New York, N. Y., under the Act of March 3, 1879. Copyright, 1957, Society for Advancement of Management. Permission must be obtained for reprinting, digesting, or quotation. Subscription rates: $8.00 per year. Single copies: 75 cents (members); $1.00 (non-members). All members receive this publication, for which $4.00 of their dues is allocated. Reprints of articles readily available in quantity, price schedule on request. An index to ADVANCED MANAGEMENT is published annually, and the contents are also indexed in industrial Arts Index, available at Public Libraries. Notification of address changes must be given four weeks in advance.

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R & D And The Future

ONE OF THE curious and encouraging things about the current recession is the fact that business, nationally, while fighting the battle of cost reduction, at the same time is spending more money on research and development than ever before.

The current decline is certainly being taken very seriously by most firms. Only a fortunate few have not felt the downturn. Most are intently engaged in finding new and better ways of adjusting their operations to lower volume. This means cutting down on overhead, simplifying procedures, reducing expenses, deferring capital expenditures and reducing the work force where necessary.

We are given to understand that the periodic business recession, while working a distinct hardship in many instances, is not only something to be expected in a free economy but, also, that it is an important underlying reason for the overall efficiency of our economic system. It is partially because of the periodic downturn that we find it necessary to tighten the belt and eliminate unnecessary or wasteful practices. These philosophical thoughts, however, do not alleviate the pain in times like these.

It is, of course, particularly significant at this time that the latest reports indicate that business management, for the most part, is not reducing expenditures in the area of research and development—that money being spent for these activities has actually been increased in 1958 over 1957 and previous years.

This can only mean two things to me: business managers have confidence in the future, believing that the downturn will be of short duration, and they are convinced the future competitive success of their businesses is dependent upon an ever increasing flow of new products and processes. They feel so strongly about this that they are willing to increase R&D expenditures at a time when they are cutting back and reducing expenditures in other parts of their operations.

H. E. Lunken
S.A.M National President

The Training Man And Tomorrow's Management

by J. H. Gorsuch

Assistant Director
Personnel Division
Commercial Department
United States Steel Corporation
Pittsburgh

WHERE does today's training man fit into the management development picture? Is the training function, per se, automatically interchangeable with the function of developing the executives who will lead the company in the future? These are intriguing questions which deal with the underpinnings of our present-day business processes. For example, Roy C. Ingersoll, Chairman of the Board of the Borg-Warner Corporation, recently said:

> *"The most valuable asset a company can have is strong Management backed up by skilled, well-trained, talented, and properly aggressive personnel right on down the line. Executives at every level should build up behind the men who are equipped by temperament, intelligence and experience, to step into the shoes of their superiors. And that is an obligation which every company owes to its stockholders and to its employees alike—for the security of both groups."*

What is needed to achieve Mr. Ingersoll's "*strong Management, backed up by skilled, trained, talented and properly aggressive personnel*"? How best can executives build up behind them the men who will eventually step into their shoes?

"Management development" means more than the education and preparation of people to be better managers and executives. It means a never-ending search to decide who is to be developed, and how. It includes study of the organization of today, and its probable evolution in the years ahead. It takes account of the rapidly changing technical complexities of doing business.

The need for more men of better management calibre has mushroomed because of the unparalleled expansion of industry. This of itself would have created a shortage; but, another factor has aggravated it. For fifteen years prior to and during World War II, industry was on a lean diet personnel-wise—first due to the depression years, and then because the war siphoned off management material.

Complex modern business techniques demand more and more from management. A candidate of only twenty years ago would not possess the techniques and the skills—nor even understand the language—of today's performers. Those men were equal to their times, but times and standards have changed. The need for more and better trained men started many years ago. Continuing progress has made something like a chain reaction.

Today's Manager Must Have A Global Mind

Once a market was limited to the distance a man could walk in a day; all the businessman needed was a ten-mile mind. Markets widened in the horse-and-buggy days when men could travel twenty-five miles a day; they grew in the railroad era; and today, the air age literally makes available the markets of the world.

Training has undergone a similar evolution, and today the training man is confronted with a much greater challenge than he was even ten years ago.

Early in our industrial revolution, little mention of the training man was heard. In the first efforts to evolve scientific management, Fred Taylor and other pioneers recognized a need for training. But training as we know it today was the exception. Even in the 20's and early 30's Industrial Relations largely concerned itself with Labor Relations. Most professional Industrial Relations men were lawyers and industrial engineers who usually had the title of Labor Relations Director. Training began to gain a niche but was largely confined to trade and shop skills.

In the late 30's and early 40's, Labor Relations Directors came to be known as

MR. GORSUCH has been with U. S. Steel since 1946, holding positions on the Industrial Relations Staff and in Commercial-Personnel before being appointed to his present position. From 1942-45 Mr. Gorsuch was with the Office of Scientific Research and Development as Personnel Consultant. He has served two terms as Chairman of the Personnel Research Section of the Pittsburgh Personnel Association. From 1947-50 he lectured at the University of Pittsburgh in Industrial Psychology. He is the author of a number of articles dealing with psychological and industrial problems.

Industrial Relations Directors and more attention was paid to the supervisory process and human relations. In due time, the training man was called upon to teach supervisory and other human relations skills.

As World War II came to a close, the great demand for more and better qualified managers brought the era of "Management Development". Today, top management is turning to colleges and universities, to consultants and trade associations, and to their training men in search of the managers they need.

The effectiveness of the training man in this larger, more complex province depends on how well he can take this next step, on how well he understands its scope and complexity and how well he can equip himself to deal with Management Development problems.

The task is not one of initiating brand-new activities. Rather it is the vastly more difficult job of making present activities more systematic and effective. This means changing the ways of people —and that is one of the most difficult problems that confronts management.

WHERE does the training man fit in management development? Let us look at the five major functions involved and see what the training man can contribute to them.

First, there is the acquisition of sufficient precision knowledge about employees to help line management make precision estimates about their skills, interests and potentials.

Each member of management carries in his head a great deal of information about his associates. But the information is unorganized. If he is not available, the information cannot be used. Obviously, when the organization is large, no executive can have equally complete information on all of his associates.

But this matter is too important to be treated informally. There is need for a systematic approach, first, to find out what information is necessary, and second, to assemble it so it can be useful to others. Otherwise, how can you be sure that all employees receive fair and adequate consideration?

No single formula of information needed can be specified. It would differ markedly with different organizations. Of course, some information would be standard—information about personal affairs; appraisal of performance on the job; health conditions; age, and education. Something should be known about a man's interests and activities outside the business. What home problems might restrict his movement? Can he take on additional responsibility, and is he interested in doing so?

Some of these points are readily documentable so that management can use them with minimum error. Other points are variable and more difficult to keep abreast of. Hence, the up-to-date opinions of those who know the management candidates well should be on record and be brought to the attention of top management.

After each organization has decided what records are necessary, according to its individual needs, procedures to accomplish this must be established. Administration of the procedures frequently means training the line organization in how to apply them, and follow-up to see that they are kept alive and up to the minute.

Training men can make a significant contribution by recording the valuable information they glean while conducting training programs. Neither management nor the participants benefit if the training man's observations are not recorded.

The training man with his skills of observation and knowledge of his company should have no difficulty in mastering this phase—the assembly and recording of comprehensive, up-to-date knowledge.

The effectiveness of other elements of management development depends on how well this work is done.

A *second* function is the analysis and

CIPM Reports . . .

Plans for the Second Inter-American Management Conference

THE challenges and problems of the expanding industrial economies of North and South America will be the central theme of the forthcoming Second Inter-American Management Conference, to be held on the week of November 16-21, 1958, at the Greenbrier Hotel, White Sulphur Springs, West Virginia. The rapid industrial growth of Latin American countries has created, on the one hand, new interests and opportunities for business leaders of North America, and on the other, an increasing awareness of U.S. management ideas and methods of the part of Latin American businessmen.

In answer to many of the questions of policy and practice raised by management representatives of both continents, CIPM is planning a Conference at which outstanding management leaders from the U.S., Canada, and a number of Latin American countries will present their views and ideas. These principal addresses will be followed by panel discussions, clinics and seminars, to permit specific aspects of each subject to be explored fully, and to give all the delegates an opportunity to discuss the subject in small groups.

One of the days of the conference will be devoted to the topic of marketing—deepending existing markets, developing new ones, trade within the Americas, and the problems posed by the European Common Market. Peter Drucker will begin the day's program with an address outlining some of the phases of marketing which he believes to be of greatest importance for managers from all countries. A panel composed of an official representative of the Common Market and of marketing experts from North and South America will analyze some of the foreseeable factors affecting countries trading with the Common Market area, and these and other phases of marketing will be explored in more detail in afternoon clinics or seminars under Mr. Drucker's direction.

Other days of the conference will focus on the policy problems of an expanding industrial organization in a changing industrial economy. These subjects will be treated by experts from North and South America whose personal experience and reputation enable them to bring out the aspects of managerial development, company organization, and long-range planning that are essential to a firm's success.

CIPM is organizing the Conference, the second held by the Pan American Council of CIOS (PACCIOS), the first of which was held in Santiago, Chile, in 1956. In addition to a large delegation from the United States and Canada, industrial leaders from Mexico, Chile, Argentina, Brazil, Peru, and all other Latin American countries will attend. ■

Jane Dustan
Editor, CIPM

S.A.M is a charter member of CIPM, the Council for International Progress in Management, the American non-profit, non-political organization devoted to the practice of scientific management on the international level. CIPM is in turn a member of the International Committee of Scientific Management (CIOS) which represents the organized management societies of twenty-six nations.

interpretation of information about people, to aid management in making realistic plans for their placement and promotion.

A minor mistake at this point might be likened to aiming a space-ship at the moon. A tiny error in calculation during the aiming goes almost unnoticed, but when the rocket misses the moon by thousands of miles, we see the magnitude of the error. In this complex and difficult problem, our starting point is an accurate estimate of potential, and mistakes here can mean unwise investment of time and effort over a prolonged period. To the individual it may mean disappointment, heartache and frustration when he fails to achieve the future he had envisioned.

THEREFORE, management's early appraisals should be accurate. Also, they should be expert. The wisdom of our selections may not be apparent until the company's investment in the individual has grown to substantial proportions. Then comes the complication of not knowing what to do with a man when he proves to be a dud. These considerations bring out in strong relief, the difference between dealing with groups of people and dealing with a selected individual.

Obviously, the performance of a man must be satisfactory before management can seriously consider him for management development. But here it is easy to fall into error. Satisfactory performance is not the whole guide to promotability. Many a star salesman has become an unhappy, unsuccessful sales manager because his qualifications were not correctly weighed against the requirements of the higher position. At the higher levels there is no single pattern for success, and danger lies in using a cut-and-dried measuring scale or pattern.

However, unbiased judgment can minimize personality differences, and the safest way to eliminate personal bias, emotional thinking and prejudice is an orderly assembling of the facts about the man and weighing them dispassionately against the known requirements of the job.

When the training man looks at this phase of the problem, he should ask himself candidly whether he has acquired the background to solve this phase of the problem.

The appraisal of people calls for special qualifications which differ from those needed for other business decisions. This means that the businessman needs special assistance to develop procedures and to apply them. For this task, training men need to bolster their qualifications in a formal way. In recent years, appraisal methods and psychological techniques have developed at such a pace that we need to exert strong effort to keep abreast. While all cannot gain the knowledge and skills of the professional, we need at least to know where to look for help so we can isolate those parts of the problem which should be reserved for professional practitioners.

Third, we must have up-to-date, comprehensive knowledge of present and future organization personnel requirements.

This knowledge is needed so that vacancies can be forecast. We also need to be ready for openings we cannot foresee. For every ten vacancies that can be forecast, between five and ten additional vacancies may occur. In addition, substantial expansion may bring heavy burdens on management development programs.

The problem includes organization planning ahead. Today's organization is unlikely to be the one required in five or ten years. The question then is: what organization are we striving for? We must consider personnel requirements—not for our present organization, as it will be expanded, but rather for a new, evolving structure that may be substantially different from the present one.

Are these problems regularly, or even occasionally, encountered by training men? They could be, provided he has been exposed to organization planning. But this happens infrequently.

In large organizations, an organization planning specialist may be available. But even then the training man will need to acquire a firm understanding of the principles involved. If no specialist is available, the training man will need to gain the knowledge and skill to prepare recommendations for changes in organization structure.

To get this knowledge and skill, the training man may need formal instruction; courses at a University, or perhaps participation in programs such as those of the National Industrial Conference Board and the American Management Association. (*Ed. Note: The Society for Advancement of Management also conducts such programs.*)

Fourth is the implementation of plans for the development of people for organization needs and also to insure maximum personal achievement. This seems to be the real stamping ground of training men; but we should note an important difference.

Training men have largely administered group programs, generally of a package nature. But in management development, we must devise and administer programs for individuals. This requires a careful study of individual deficiencies.

Are these individual deficiencies amenable to training? Can they be ameliorated or strengthened sufficiently? It is necessary to find out. True, training can improve performance in almost every instance. But results often show that better human material was needed to start with.

However, even the best individual has some deficiencies which training can help. A carefully conceived program can give him more varied experience within the organization; perhaps well-planned special assignments; a hand-tailored training program; extended contact with other organizations; or enrollment in an outside educational program. Certain of these devices would undoubtedly go a long way with the individual. But what is the basis for choosing a given man? Most training men are more familiar with analyzing specific skill requirements of production operations than in evaluating personal qualities of paramount importance in developing management potential.

FIFTH is control of the movement of personnel to insure orderly and fair consideration and treatment of all candidates when vacancies occur.

To some extent, this is a matter of procedure. What is done when a vacancy occurs? Is there a formal procedure to cover such cases, or are they handled informally? What safeguards have been set up to prevent a supervisor or manager from filling a vacancy and ignoring procedure? How can we make sure that all qualified candidates are considered?

If a supervisor can fill the job without consulting a central clearing point, all the development effort exerted outside his immediate unit may be lost.

But procedure is not the total answer. More important is the strength of the management development individual, and the respect given him by managers up and down the line. He could have letter-perfect procedures and records; but unless he has force and stature, they will not get used. It is easy to say

(*Continued on page 31*)

Critical Elements Of Executive Leadership And Development

by Dr. Joseph L. Krieger

Technical Advisor to the
U. S. Air Force
Washington, D. C.

THE primary objective of the survey on Critical Elements of Executive Leadership and Development was to develop a current consensus of recognized authorities on ten significant issues and 131 critical problems concerning the development and utilization of executives.

One of the major goals, in the development and analysis of the findings, was the identification of principles and hypotheses for emerging principles, or guides to executive action for effective executive performance and success.

Approach Used

One hundred thirty-one problems related to executive leadership and development were identified, analyzed, and grouped under the following ten issues: (1) Nature of the Executive Job, (2) Criteria for Executive Success, (3) Executive Abilities and Personal Characteristics, (4) Executive Motivation, (5) Objectives of Executive Development, (6) Comparisons Between Executive Development in Industry and in Government, (7) What Executives Should Know — Subjects Executives Should Study, (8) Executive Selection, (9) How to Develop Executive Talent, and (10) General Issues.

A fifteen-page *Check List on Development of Executives for Effective Executive Performance and Executive Success*, was used to obtain from the authorities the basic information required in development of guides to executive action.

The important studies, surveys, books and articles were reviewed. Much of the current literature and conference proceedings tend to be repetitive or redundant on many aspects of the subject. The literature, however, furnishes a rather extensive coverage of what generally is being thought about and done. Actual observations, on the other hand, revealed that there may have been exaggerated reporting of accomplishments in some cases.

The obtaining in the survey of a predominant consensus of agreement on forty-eight problems supported the reduction of these problems to principles. These are the problems upon which at least 80% of the authorities positively expressed an opinion, and on which 90% agreed. These principles, it has been shown, in many practical applications, can serve as guides to executive action.

The remaining 83 problems were reworked into hypotheses. The comments made by the authorities on particular problems were especially valuable in this process. Thus, the other problems were developed into 77 working hypotheses, not only to guide further research but also to furnish tentative answers to important questions on executive leadership.

Profile of the Authorities

A total of 166 of the most knowledgeable authorities, were invited to complete the *Check-List*; 156 or 94% answered the inquiry, of whom 110 were included in the final tabulations.

These authorities have had, in composite, over 2500 years of experience as an executive or in developing executives. This represents an average of over twenty-three years experience in about thirty-two leading industrial companies; in seven national trade, professional, and civic organizations; with seventeen

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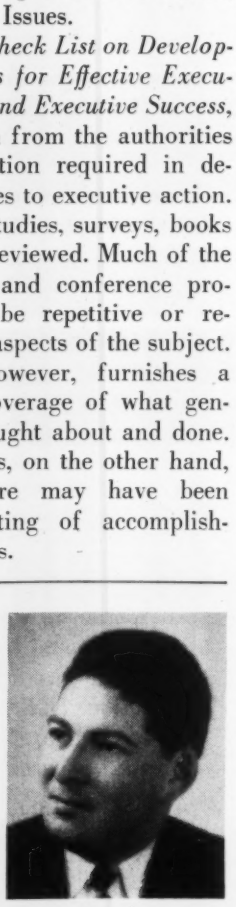

leading colleges and universities; in about twenty-five Executive departments and major agencies of the Federal Government.

Forty-seven percent are at the Chief Executive or Vice-Presidential level; 94% have salaries over $10,000 annually (18% over $25,000); and 52% are listed in *Who's Who*, including 21% who have written some of the more important books or articles on executive leadership and development.

Highlights of Findings

The principles and hypotheses which were developed to guide executive action conclusively demonstrate:

1. An urgent and continuing need for more and better executives in industry and in government.

2. Effective executive performance and success depend on many factors. However, loyalty; integrity; and ability to assume responsibility, to take action, to make decisions, to plan, to think, and to solve problems; are significant factors.

3. The development of management skills, human relations abilities, and a generalist outlook should be given primary attention in developing executive leadership capability.

4. Ten significant executive abilities and personal characteristics which should be especially considered in developing executive capability are: (a) Leadership (Ability to lead, inspire and motivate subordinates), (b) Integrity (The thing that makes people trust you), (c) Intelligence (Knowledge and ability to apply knowledge), (d) Use of good judgment and know-how to make decisions (Willingness and ability to make decisions when necessary and accepting responsibility for such decisions), (e) Initiative (Drive, energy, willingness to go out on a limb), (f) Know-how to develop subordinates and stimulate them (Ability to develop confidence—has trust and confidence of subordinates), (g) Analytical and reasoning and problem solving ability (Flexibility of mind, thinks clearly and reviews pertinent facts), (h) Know-how to stimulate teamwork for the good of the organization (Knowledge of applied human relations—gets along with people—enlists cooperation and support readily), (i) Emotional stability (Self-control—faces responsibility calmly—stands up under fire when things go wrong), and (j) Courage (Endurance and tenacity of purpose).

5. Psychic (other than financial) income is a significant executive motivation.

6. An executive development program should include both middle and top management personnel. It should be a continuing effort backed by active top management support and a qualified personnel staff. Executive development is an inherent responsibility of line management. Emphasis should be placed on the recruitment, development, and retention of junior executives in order to insure perpetuity of an organization.

7. Basically, the problems of executive development in industry and in government, and the solutions to such problems, are similar.[1]

8. Executive selection is the keystone of executive development. The use of an "Executive Stockpile" is one of the best methods of insuring provision of future executive talent, if, as, and when needed. Psychological tests are not currently regarded as valid indicators of executive success. However, this is believed partly due to misunderstanding of the value and limitations of such tests.

9. Five significant subjects which should be considered for executive training are: (a) Management Techniques (including Principles and Practices of Organization and Management), (b) Personnel Administration and Personnel Management (including Human Relations), (c) Executive Development (and Executive Leadership), (d) Management and Program Analysis, and (e) Measurement and Control Devices for Efficient Management.

10. There are many significant methods and techniques which may be used in developing executives. Some of the more important ones currently found most effective are: Multiple appraisal; promotion from within; in-plant, on-the-job, and outside executive training; use of executive development aids; understudies; and self-development. One technique, a personalized management reading program, was found to be deficient in itself. There is no one best method. The best method is actually the one which a particular organization finds best meets the needs of such an organization. Examples of the use of some of the more effective methods and techniques are to be found in the officer development systems of the Army, Navy, and Air Force. Those used for officer selection, training and education, classification, assignment, and promotion, are especially noteworthy. Other examples would include the methods and techniques used by numerous industrial companies, including especially Standard Oil of New Jersey, United States Steel, United States Rubber, Radio Corporation of America, and General Electric.

11. Leadership ability may be identified in youth; it can be developed; but not all persons can be developed into executives. Inadequate executives should

(Continued on page 13)

Background of This Article

WHAT are the main ingredients for effective executive performance? Should executives be generalists or specialists? Is psychic income important in executive motivation? What are the more significant executive abilities and personal characteristics? What is the keystone of executive development? These and other pressing questions were answered by 110 national authorities who completed a 15-page questionnaire *(Check-List On Effective Executive Performance And Executive Success)* sent out by Dr. Joseph L. Krieger. The objective was to ascertain the thinking of outstanding executives, authors, and educators on critical elements of executive leadership and development. The composite background of experience of these authorities, as an executive or in developing executives, represents 2,530 years.

Among the 110 who cooperated by answering the extensive questionnaire are Colonel Lyndall Urwick, international management consultant; Robert Lovett, former Secretary of Defense; Frank Pace, President of General Dynamics; John B. Joynt, Vice President of Management Planning, New York Central Railroad, and Chairman of the Board of S.A.M, Don G. Mitchell, President of Sylvania Electric Products and Chair of AMA; John Zehntbauer, President of Jantzen, and the Hon. Meyer Kestnbaum, Special Assistant to President Eisenhower and President of Hart, Schaffner and Marx.

This article highlights the survey and its major findings which reflect (1) the most effective ideas currently used in several hundred companies and government agencies, (2) the best ideas in over 1,000 books and articles, (3) latest ideas from research at over a dozen leading universities, and (4) observations from Plato to Lawrence Appley.

[1] *There were not any apparent significant differences in thinking patterns, on the issues and problems included in the survey, between industry and government authorities. Also, a preliminary scanning of data by grouping of authorities according to types of experience, salary levels, and years of experience, did not indicate any significant differences in thinking patterns.*

Where To Find It What To Do About It

by Herbert V. W. Scott

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COST reduction is a continuing activity. One does not wait until the squeeze is on before organizing for cost reduction. A profitable enterprise cannot maintain its profit position without it. It is no easy road. It needs a dynamic force behind it. It requires enthusiasm, hard work, and a desire to cope with details.

We hear much about the shrinking margin between cost and selling price. One cannot continue to pass on increasing costs to the purchaser. The progressive companies who are controlling this margin and who are holding their selling prices are those with whom the complacent manufacturer is competing. To keep swimming upstream and to keep inflation at a minimum, the forces of cost reduction must be operating continually.

Cost reduction is something that is not casual. We must organize for it. Needless to say, the organization depends on the size of the company. A large company of several divisions and many plants should have a *General Cost Reduction Committee*. This committee should constitute a representative from each of the major functions of the business. For instance, Administration, Sales, Finance, Manufacturing, Engineering, Research, and Personnel. It is obvious that there are many other functions performed but these can usually be represented by the ones mentioned above.

Sub-committees should be appointed under these specialized representatives to develop, analyze, and direct the specific programs. The General Committee coordinates the activities when the need for integration arises. Such is the case when dealing with company-wide projects.

The Cost Reduction Committees evaluate the projects, make recommendations which include project costs and savings, and follow the progress of the cost reduction programs to completion.

The cost reduction organization can be *tailored to small business*. Instead of a large general committee, this could be placed in the hands of the manufacturing officer or the financial officer or both. The modus operandum is the same only on a smaller scale.

Committees do not always have the power of decision but their recommendations largely influence the decisions of administrative management. Therefore the Cost Reduction Committee must report to the chief executive of the company or to an executive committee for decision and action.

What are you doing about your *machinery and equipment?* The capital goods manufacturers are improving their products and adding new products to their lines which makes it desirable to plan a machinery replacement program. Labor saving attachments for existing machinery are available. For example, mechanized programming of machine tool operations reduces operator and machine time. Attachments containing program tapes produce the se-

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HERBERT V. M. SCOTT received a degree of Mechanical Engineering from Stevens Institute of Technology and immediately entered the consulting engineering profession. He became operating and administrative executive and director of one of the larger textile manufacturing firms later and was associated there for many years. Mr. Scott was responsible for the expansion program which resulted in the development of multi-plant operation in textiles in the South, a program which included plant design, machinery layout selection and training of staff and personnel, and the installation of production, cost and management controls. Upon completion of this program Mr. Scott joined Stevenson, Jordan & Harrison, Inc.

quence of operations automatically and reduce the number of manual operations. It could be a full time job to study and determine what new machinery and equipment is available to replace obsolete and low production facilities.

What about a revision in the *plant layout?* Many companies have grown so rapidly and have added equipment which was placed in the only space available at the time. A study of process and production flow might reveal excessive material handling and production delays which could be corrected by a rearrangement of the manufacturing facilities. Even new assembly lines which were heretofore given little or no consideration may be desirable now. An extensive analysis of material handling cost in manufacturing operations has shown that in many cases this cost represented as much as 35% to 40% of all direct labor costs of production.

Conveyor lines are being remodeled to improve production. Process lines with conveyor equipment are replacing floor movement from one functional operation to another. Make full use of the high skill of the machine operator in the performance of his task by eliminating any of his time that might be required in transporting material to and from his work position. A book manufacturer was successful in having only one operator at the feed end of a machine and a conveyor at the delivery end, thus eliminating one operator.

THE development in *material handling methods and equipment* in recent years warrants a careful survey of your existing methods. *Palletized warehousing* of bulk goods is common practice. The capacity of fork lift trucks has been increased to permit larger pallets, heavier loads and unusual stacking heights. Consider the replacement of old lift trucks in order to take advantage of these larger capacities.

What about *plant relocation and consolidation?* These studies are necessary in the light of a changing market. It is often found that sales in one area are increasing substantially more than others. In order to improve or maintain customer service a relocation may be desirable. It may not be necessary to move the manufacturing operation but local warehousing could result in reduced transportation costs.

Work standards and incentives are essential to evaluate the labor savings in any cost reduction program. They are the basis of production and labor cost control. It is human nature for the individual to set his own pace unless there is an engineered production standard. Without it, the operator's production will be considerably below what is considered good practice. It is generally accepted that when no standards are available the excess cost is about 65 percent. Standards should be set so that the experienced operator working consistently, and with proper allowances for personal time, fatigue, and normal production delays, can meet that goal. For this attainment he should be rewarded with an incentive bonus.

It is desirable to check existing standards to determine if they are being properly maintained for changing methods and machinery. Cost reduction cannot be accomplished if the operators are receiving incentive bonus for production through new methods based on old standards.

We hear much about the inefficiency of labor but little about the inefficiency of management. The *errors of management* are a great source for cost reduction. They are usually caused by *lack of planning.* You would be amazed to know the excess cost because of waiting time, i.e., waiting for work, unutilized time from inadequate work loads, unbalanced operations, methods not properly defined (speeds and feeds), tools not specified.

"Waiting for work" is the result of poor scheduling of production. It is not unusual to find that an expensive tool or other large piece of manufacturing equipment is standing idle waiting for the part to be machined in some previous operation. New work cannot be started in the interim as this would result in a further delay when the part did arrive from the previous operation. In some machine shops the operator of the costly machine is transferred to another machine to produce a small part on a repetitive operation, but the excessive cost is not eliminated because of paying for higher skill than is normally required for a low skilled operation.

"Unutilized time" often occurs when the machine operator tends several units or machines simultaneously. This is particularly evident in the spindle operations of the textile industry. When engineered time studies have been taken of spinning spindles, the engineer determines the work time required per spindle. This is usually a fraction of the time required to fill a bobbin when running on the spinning spindle. The normal spindle assignment can be readily calculated by dividing the work time into the cycle time to fill a bobbin. In the case of textile operations, engineered time studies have been known to increase operator work loads as much as 80% in order to utilize the available work time without putting any hardship on the operator.

"Unbalanced operations" frequently occur on continuous production lines which are conveyorized. Studies of each operation being performed on the line will eliminate unutilized time. Sometimes operations can be combined. The unbalanced condition usually occurs when there is a change of product over the line. Frequently supervisors do not reassign the work stations on the production line when another product goes into production.

MANY machine shops make use of route sheets to prescribe the sequence of operations to be performed on a manufactured part. Few of them take the trouble to specify the tool and fixture to be used in each operation. Most of them do not specify the speed of the machine and feed of the tool. This leaves it to the option of the operator and usually results in operating speeds far below that which can normally be used.

The elimination of management errors means increased productivity and reduced costs. Get rid of them before you develop equitable production time standards (minutes per piece produced) and before you install a wage incentive program. The panacea is a good *Production Control* program that plans the work ahead, keeps the operator supplied with work, and reduces idle machine time to a minimum. Careful planning of the components, whether purchased or manufactured, can save many a delay in assembly. Avoid releasing production orders until all component and production equipment is available.

Job Training programs should not be overlooked. Organize for apprentice training so that these learners will not develop bad habits of unnecessary motions which are difficult to overcome.

"CR" In Maintenance

Too little attention is being paid to the cost of maintenance. It is like the old story about the weather: everybody talks about it but nobody does anything about it. *Maintenance can be planned and controlled* like any other manufacturing operation. Be sure to set up a *work order system.* Such a system means a clear and concise description of the

work to be performed, the estimated time required by each of the job classifications (labor grades), the material required, and estimated cost. This requires a complete analysis of the job before it is performed and provides for proper planning. A report of actual cost as compared to estimated or standard cost when the job is completed results in proper control and reduced cost of maintenance.

Preventive maintenance will reduce emergency breakdowns during production periods. Routine maintenance such as oiling of motors and machines should be scheduled. Major repairs should be planned so that the shutdowns have the least effect on production. They are usually planned for vacation periods or weekends when manufacturing facilities are not operating.

"CR" Through Personnel

The department directing the labor relations function of the business can play an important part in the cost reduction program. Through the regular channels of house organs, bulletins, bulletin board displays they can enlist the interest of the employees in the economy of operations.

The selection of an applicant at the time of employment is of utmost importance. People who do not possess the *necessary aptitudes for the job* cannot produce effectively. Time is lost in training and turnover is excessive. Testing procedures have been developed or can be developed for each specialized situation to reduce the training period and turnover. Employee promotion can be guided by *personnel evaluation tests* and interviews to assure the management and the employee that the employee possesses the necessary traits and characteristics for the position ahead.

Job Evaluation serves as the basis for wage and salary administration and is also a tool for cost reduction. Carefully defined job descriptions and a proper classification of employees into their job titles not only evaluates the job but identifies the employee with the skills required for such work. Research on this subject has indicated that often high skilled wage rates are being paid for low skilled jobs. Frequently high skilled rates are being paid for the high skill that is required for a very small part of the job. Cost reduction is obtained by *de-skilling the job*, i.e., creating a new job of the lower skills only and manning it with personnel accordingly. A typical example of this is, instead of having a machine operator "set-up and operate" and paying the rate for the set-up skill, have a set-up man who can put in full time using his ability for several machines and a less skilled operator on the machine.

"CR" Through Financial Control

It has often been said that one of the functions of the controller is to "keep the score." The score is very necessary in a cost reduction program. This is accomplished through *Cost and Budgetary Control.* As the production operator wants to know the standards of performance, so does the department supervisor want to know what is expected of him and what his performance is against that goal. *Departmental flexible budgets* virtually put the supervisor in business for himself. They are adjusted to the current production activity of his department and the department head is not plagued by the effect of fixed or period cost when the production volume changes. Since he has approved his budget and considers it attainable, he takes an interest in reaching his goal. The control or variance statement is on a current and year to date basis and shows the actual cost, current standard cost, and variance of every labor and expense account under his control. *Key man bonus plans* for performance in relation to budgets should be installed. They are most effective in reducing costs.

Cost Reduction and *Profit Planning* have the same objective: to increase profits. There is no better tool of management to reduce cost and increase profit than a *Profit Plan* with the *Profit Analysis* statement for control and action. Profits can be controlled.

Management no longer accepts the theory that just because income in excess of expenses has been obtained for a year's operations, a good job has been done. The profit analysis shows the deviation from the planned profit for each executive function. It shows the cause and amount of all profit variances.

The P/V (profit to volume ratio) technique of business planning is used in cost reduction. When a careful segregation of Fixed and Variable Costs has been made, the profit contribution or *P/V ratio* of each product can be determined. *Profit Contribution* is the amount of sales value in excess of variable cost. It is what remains to liquidate the fixed cost and contribute to profit. The P/V ratio is the relationship of profit contribution to the selling price.

Through the use of the P/V ratios sales management can plan the most profitable selective selling program. They can be used in the development of sales compensation plans so that commission rates may be related to profitability and eliminate the fixed commission rate which so frequently results in selling the low margin products which may be the easiest to sell. The P/V ratio also provides a means for pricing new products consistent with the profit plan.

Financial management can do much within its own operations. It should study the need for revisions in *credit policies,* together with a more effective policing of accounts receivable. Are bad debt losses being kept to a minimum? What about a policy of *selling idle assets* or converting them to profitable use?

What is being done to increase the *turnover of inventory and increase working capital?* What is being done about *insurance costs?* Reduced inventories should justify reducing the amount of insurance. When the total loss of the plant or property is very remote, insurance should be cut to the lowest amount the insurance companies can be persuaded to accept, which amount, however, should be ample to cover the maximum possible loss.

"CR" Through Purchasing

The purchasing department is often a lucrative source for cost reduction. *Centralized purchasing* is becoming general practice. Quantity orders can be placed at reduced prices and *economical purchase-lot sizes* established.

Specifying shipping dates to conform to the production schedule will create better inventory control. A reduction in small order purchasing will reduce paper work and the handling of incoming material.

Freight and other transportation costs should be studied. The types of containers and packaging methods used by suppliers can influence the cost of receiving and the storage of materials.

"CR" In Sales And Distribution

This is a broad subject and cannot be covered adequately within the scope of this article. However, its importance justifies mentioning a few areas for cost reduction.

It is usually a desire of sales management to want more products to sell. A

study of a diversified product line should be made to determine to what extent, if any, it should be reduced. An analysis should be made to determine what percent of total sales is represented by each product. It may be found that a large percentage of the sales comes from relatively few products. Determine *the profit contribution each product brings* to the company for its share of the volume.

What about your *salesman compensation plan?* Is it pulling? Do you give a higher incentive for selling the more profitable items?

Have you studied *the turnover of salesmen?* Did you select the right man before spending the time and money for his training program? Salesman turnover is very costly; it should be studied for cause and reduced to a minimum.

Other areas for distribution cost reduction are reduction or improvement of unprofitable customers, correction of unprofitable territories, reduction of unproductive time in the sales presentation, reduction of travel expenses, and warehousing costs. Take a good look at the advertising and promotion programs.

"CR" In Administration

Last but not least is *the reduction of administrative* costs which also include home office costs. Contrary to the feeling of many executives that many of these are fixed costs, there is a great opportunity for cost reduction. As a result of management policy and decision they do become constant costs (do not vary substantially with production or sales) for the budgetary period. However, the field is fertile if one takes the trouble to till it.

Office and clerical procedures can be simplified by the principles of systems analysis. *Flow charts* indicating each movement and work station highlight the places for improvement and the operations that can be eliminated. This is usually termed *Work Simplification.* It is surprising to realize the number of reports that can be eliminated. Many of these reports continue to exist long after the need has passed. Extra and unnecessary copies of inter-office communications take time to read and time to file.

The advances in *office machinery and equipment* warrant a study to mechanize wherever possible. Computers are available when a high volume and increased speed is desirable. A word of caution: These are relatively expensive office tools and cost reduction can only be obtained when the speed for which they were designed is necessary and the savings commensurate with the cost.

The *office work place* may be in need of a revision of layout. Clerical procedure flow is just as important as production flow. *New layouts* can reduce walking time to files, records and other office functions.

With improved layout, work place and methods, consideration should be given to the development of clerical time standards for measuring the performance of office employees. These provide a means for evaluating the employee in his job and for promotion. *Clerical incentives* have increased performance substantially and have provided additional employees from within the company to take care of normal turnover.

Time measurement standards permit the development of *manning or manpower tables and charts.* Seasonal operations and vacation periods can be planned through shifts in personnel at a minimum cost. *Office procedure analysis* reveals the high and low skills within the job and offers the opportunity to deskill the job as was mentioned in relation to manufacturing personnel.

Do not overlook a study of the *administrative expenses,* other than salaries, such as travel, telephone and telegraph, rent and stationery.

It has often been said that a company is no better than its management. Here again it is important to select competent employees at all levels of management by means of *Personnel Evaluation techniques.* Likewise, it is necessary to maintain a *Salary Administration Plan* to be able to attract the high caliber employee as well as keep him.

The corrective steps for cost reduction, in many cases, require a specialist to obtain the most effective job. Even the larger companies with their technical staffs do not have the personnel or the experience with the latest development in cost reduction techniques. The outside industrial and management engineering consultant can do much to augment the services of the company staff. They can make complete surveys in a most objective manner and not be influenced by existing conditions which the internal organization has grown to accept.

A Cost Reduction Program well organized with definite objectives and with enthusiastic participants may well be the difference between operating at a profit or at a loss. ■

REST AND RELAXATION

Medical science is beginning to stress (what was known to the Greeks thousands of years ago) the close interrelation of mind and body, what we now call the psychosomatic factors. Most of us realize the need to balance long hours spent at office desks by gardening, by the weekend game of golf or tennis or whatever may be our particular choice of sport. But how few realise the need for rest and change of the mind, and that what is relaxation for the body is not necessarily relaxation for the mind. Sir Winston Churchill, who, as you know, is an able amateur painter, explains in his book on painting why he took it up as a form of relaxation from guiding the affairs of the nation.

"When the body is tired it needs rest," he says: "when the mind is tired it needs change."

Sir Frederick Hooper.

(*Continued from page 9*)

be removed from responsible decision-making positions.

12. Much more research, and attention, is required on the many problems of developing executive leadership capability. Cooperative efforts between industry, government, the universities, and research foundations should be encouraged and supported.

General Conclusion

The primary purpose of the survey was to identify those problems upon which a consensus of recognized authorities could be obtained. A major result has been a conclusive demonstration of considerable agreement among such authorities on solutions to forty-eight significant problems involved in the development of more capable executive leadership. These principles particularly, and the hypotheses to a lesser extent, have been found useful to individual executives in a number of organizations as guides to executive action and as the basis of executive training programs.

The guides to executive action are thus serving as spring-boards for the solution of current and future executive leadership problems conditioned by the specific situation; whether dynamic or static, emergency or normal or under different organization contexts; and in terms of the particular needs of an individual executive. ■

Reports: A Problem In The Control Function Of Management

by Morris Budi

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MANAGEMENT, by the exercise of its control function, measures and corrects the performance of subordinates to guarantee that subsidiary objectives as well as major programs of the organization are being accomplished. It is immediately apparent that the function depends in great part upon the careful formulation of primary goals such as volume of sales, level of unit variable costs, or amount or percent of profit being sought. However, it is often less clear that the secondary goals must be fully considered in the overall plan. Secondary goals, as referred to here, are the objectives concerned with the specific type of internal organization and management that executives want to develop within the firm itself, immediately, as well as in the long run. This paper is concerned with the secondary goals involved in internal business reporting.

The ability to manage well is functionally related to the quality and quantity of reporting information that passes over the executive's desk. With the growth of industry and government to their present magnitudes managers are more and more dependent upon reports for the proper exercise of their control functions. Where, formerly, in small scale business organizations, managers were able to control activities by direct supervision of nearly all facets of business, today they are forced by the magnitude of the job to "manage by exception". And the "exception" is found through the report.

A manager's dependence upon reports has certain drawbacks as well as advantages. Properly applied, a report is a good servant; improperly, a destructive master of which we are too often not even aware. And, too, what often may have been started off as a good servant, may become a bad master after a time. Something of this nature occurs when excessive emphasis is placed upon the "management by exception" principle. Reports that do not indicate exceptional conditions are readily passed over without review, because everything is assumed to be "fine and dandy" in th part of the organization. As a goo servant, this set-up was designed to fr executives from direct supervision policies that lower level decision-make could adequately effectuate. Only ne policies or exceptional situations woul necessitate bringing in the upper ma agement level, leaving them free to de with more complex matters. By co tinued use it can evolve into a bad maste if conditions indicated below develop.

It is very possible that review b "exception" may induce reporting age cies to avoid complete honesty in the reports, in the hope that by delay, mi nor, or even major, problem areas wi be resolved within their own departments before the next report period come around. This attitude may be in part th product of the attitudes that executive bring to the "exceptional situation." Rapport is enhanced if both can see th situation as a difficulty requiring coop erative problem solving. On the othe hand, free exchange and honesty may b destroyed if the problem is submerge beneath the personality differences. Fur ther, certain attitudes toward promotion and rewards may develop in manage ment when it relies strongly upon th "exception principle." On one side, lev els of management that get reports ma be very much influenced in giving pro

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motions by the number of times Mr. X's department has been reviewed because of its difficulties. As for the other side, report makers may believe, correctly or otherwise, that reports which indicate exceptional situations reflect on their capabilities as managers, so avoidance of such reporting may enhance promotion opportunities. Thus each contributes to reinforcing the attitude of Mr. X who is unwilling to expose himself to his own detriment.

FOR a reporting system to operate satisfactorily within the "exception principle," it must provide for a proper evaluating technique by which priorities of importance can be assigned to problems within the organization. For a simple example one may turn to the reporting techniques of some purchasing departments that adhere strictly to a time cycle for handling purchase requests. If the requisitioned item is not evaluated as to difficulties in procuring it, and assigned a priority over other items that may have been put into the process earlier, it will be handled in the usual way until it becomes a "critical" item at some later date. By following a time cycle concept of control the department has actually adopted a rule-of-thumb priority that may not fit the purchasing problems it faces. Items become "critical" when they have been in process for a given number of days, or when delivery has become delinquent for so many weeks. It is possible that a reassessment of the priority system would reduce the number of critical items markedly. The destructive forces operative in such a system often occur at two extremes.

Certain types of relatively unimportant problems are often subjected to review when they are merely minor exceptions, so we find executives using valuable time "putting out little fires." At the other extreme, some problems are not foreseen until they become emergencies, management supposedly controlling, but really living from disaster to disaster. Wherever possible a priority system should help executives avoid management "de minimus" or management of conflagrations, for, obviously, each exhausts the energies of decision makers at the wrong time and on the wrong problem.

A study made by the author of the types of falsifications found in reports, indicates the kinds of responses used by reporting agencies to cope with certain attitudes of management. To be clearly understood, let us first establish the distinction between inaccuracy and dishonesty. Inaccuracy may be due to an unconscious bias, a lack of awareness of error, an inability to define the important elements properly, a lack of information, or the choice of an improper framework for the problem. Dishonesty involves the willful introduction, or perpetuation, of error in a report. Four types of dishonesty are prevalent:

1. commission
2. omission
3. bureaucracy
4. circumvention

White lies of commission are errors purposely introduced into a report. They are often manufactured out of whole cloth, as when the data are contrived to fill in the spaces. Entries may be in part, or wholly fictitious. There are some legitimate applications of such fictions, for we find scientists, sociologists, statisticians, mathematicians, budget directors, production planners, and others, making use of invented data to fill in the gaps that are left in their analyses. The distinction, however, is that they are focusing their attention on the solution of the objective problems, whereas the report falsifier is liable to be primarily seeking protection for his ego.

In falsification by omission, certain data are deliberately left out of a report. Perhaps the definitions used, or the questions asked, are sufficiently ambiguous to give opportunity for each evasion. Omissions can easily be perpetuated if the reporting system is not reviewed periodically, and if reports are not linked to the process flows of the organization. It is apparent from our study that in frank discussion the conditions that induce omissions are brought to the fore by the managers of the reporting agencies with relatively little reticence.

Bureaucracy is not only the source of much falsification in reports, but is also the most difficult to contend with. Such misinformation generally originates with errors, or anachronisms, or ambiguity, in the thinking processes at some high level of management. Changing conditions may have made certain information meaningless. Events may have altered the types of data that are available, or new data processing methods make available new sources of information. Often executives are not aware of changes in techniques that invalidate an older reporting form. Any one of these conditions induces our reporting systems to pass on improper and inadequate information. Should the organization suffer from hardening of the communication arteries, information would not move reciprocally through the levels of management, so such a situation becomes extremely difficult to correct. Errors are perpetuated as useless, out-dated reports are issued, which are read by no one. Sinecure positions are created, breeding an atmosphere that is detrimental to other departments of the firm. To rectify this condition anything from a minor to a major revolution must take place, depending on how well entrenched the sinecures are, and how faulty the communication structure is.

Last are the white lies of circumvention. These are popular in large organizations. They may be as unoriginal as "I never got your request for it." or "Mr. Z, who has this information, is not around now." It may become humorous in the form of double talk or "gobbledygook" about which office posts write parodies. The form is more prevalent where reports are verbal, or allowed to be written in sloppy form, inadequately supported by quantitative data.

So much for definitions. What are some of the ways in which management may adjust its behaviour to help reduce certain of the tendencies just described?

THE attitudes and insights developed by the executive who receives reports are critical in the entire reevaluation. He must be able to evaluate the structure of responsibilities that has been developed in practice within the organization. The organization chart may indicate the allocation of duties but these may not be practicable because of the personalities involved or the latent pressures that are built up. A department may be charged with certain functions, but the responsibility for reporting on the quality of performance is given to another department. The organization chart may indicate that the latter has authority over the former, but factors not capable of representation on a chart has reversed this arrangement. Under such conditions the manager of the operating department will be tempted to hide adverse evidence, because the representatives of the reporting department lack the power to verify the details. Where the latter cannot develop the rapport to get clarification of problems and actions, reports are liable to be overgeneralized, filled with circumventions to avoid toe-treading. If the report is challenged we are apt to find the two departments disputing over the responsibility for the job, or

the validity of the data, thereby shifting the focus away from the real problems under investigation, toward a conflict of personalities and authorities. Obviously, all these conditions are intensified if the management structure does not even try to define clearly the auditing powers of a reporting department.

A PREFERABLE avenue would be to have the reporting agency part of the operating department. For regular reporting the union of the two has the advantage of clearly defining the area of responsibility. It gives the department the responsibility for reporting problems and subsequently defending the details when audited. Sample audits in some limited area, or full audits would still be the function of some outside agency that is independent of the department and an arm of the executive staff, with enough authority to do its job fully. It is probably preferable to avoid the use of an outside agency for purely reporting purposes because of conflicts that may be generated. However in certain situations this is imperative; for example, where the action organization lacks adequate personnel, or a special study is being devised.

All too often a management level does not clarify to the reporting agency the reasons for a specific report, or the actions that will be taken if problems are indicated by it. The lack of explanation generates a degree of uncertainty that curbs willing cooperation. A department head should be aware of how the report is to be used, and what assistance it will give him and his department directly, whether the evidence is favorable or not. Where possible, the attitude should be inculcated that a report is the raw data for a businessman's scientific approach to his problem. It is an essential tool for defining these problems so that solutions may be tested. If previous actions have indicated that the report is a mechanism for "hanging" someone, it is clear that the department is liable to become ego-involved thereby diminishing the effectiveness of the reporting procedure.

Far below the conscious level, the personality of the manager giving the report determines much of its character. Insofar as he is ego-involved in the activities of the organization, he has difficulty in being objective about his problems, and is often ready to color his statements to shield himself from criticism. To win him over to a more objective view is one of the most difficult responsibilities of the control function. Without a doubt, conversion will be impossible if the whole organization acts as if it also is ego-involved in its problems.

Aside from the basic attitude toward reporting in general, management may advantageously reassess some of the specifics of its reporting program. Does the report meet specific needs, or is it a catchall type that hopes to land something in the fishing expedition? If the latter, executives may be letting whales get away as they net minnows. Are the purposes and uses of specific reports reviewed periodically? They can proliferate at a mad pace when executives bubble with ideas, but don't stop to evaluate them in retrospect. In another tempo, reports may just accumulate slowly but steadily over the years, neither being weeded out, nor revised as circumstances demand. Are the controls sought attainable from the type of report in use? If the report is to be used to compare (e. g. efficiency levels of departments), are the reported elements comparable and properly weighted to reflect the comparisons? Is the report form unambiguous, or are the reporting agencies defining problems from another point of view? Can the data be provided more efficiently by some other source? And finally, have safeguards been provided so as to find serious falsification or errors before they become costly?

Realistic considerations should make us accept a certain amount of falsification as a necessary part of any organization or personality. It is but one of the useful ways to save face and fend off criticism. Small violations are the perplexing issues to be solved. When it is confined to a minimum, allowing lapses to be corrected with slight loss, it can be accepted.

Management By Systemal Reporting And Running Audit

Perhaps a modification of "management by exception" will meet some of the difficulties indicated above. This modification will be termed, "Management by Systemal Reporting and Running Audit." In some ways it is a compromise between "direct management" and "management by exception," and is based upon three principles that involve reporting:

1. The development of a system-type structure of reports that would be molded to the structure of the industrial organization. It is to be molded so that reports interlock at important junctures to cross-check each other. The reporting program should be organized to include an evaluating procedure that assigns priorities to problem areas. In addition, the program should seek to combine a set of reasonable reports into a dynamic system which can evolve as business techniques change.

2. The application of statistical sampling techniques in reviewing reports to give depth and efficiency to an auditing system.

3. The acceptance of reported problems as a part of dynamic management —in other words, managing problems to reduce ego-involvement.

Let us amplify these.

1. *Development of a system-type structure of reports*

PROBABLY the best example of systemal reporting in industry today is in the field of accounting. Accounting methods have been refined into a double entry system which depends upon (1) process reports that are summarized for example, in profit and loss statements; (2) static reports, giving end-of-period totals, that are brought together in the balance sheet. The static and dynamic reports are interlocked to check upon each other in a variety of ways. A double entry system is not necessary for reports of budgeting, sales, procurement, inventories, production, etc. Instead, a system of reports of these and other functions must be developed to allow us to cross-check various records at critical points in the process. Such cross-checks are more easily maintained through records of processes, rather than through static, end-of-period totals.

Inventory records, quality control records, reports on manufacturing efficiency, etc., are much more meaningful when they are developed to give an account of the short-period process changes. Rates of change, degree of variation in a series, process tendencies, and similar important indicators, are more useful for detecting growing difficulties than are end-of-period total summaries. Specific areas for action are more readily defined if we study the living records of current activities. Further, if we depend upon totals of an entire period for comparisons with totals of some other period, we often miss most of the meat of the analytical material available. Totals tend to wash out variability by combining offsetting variations, also rates of change and their correlation with other moving factors may be lost. Because process tendencies are hidden

many difficulties reach the "exception" stage when they are too costly to correct. Unfortunately, weakness of memory couples itself with other inadequacies of such post-hoc reporting. When we try to review the totals that have combined all sorts of conditions we may find ourselves confused by multiple interpretations of what happened, based upon events and decisions that are not clearly recalled.

FALSIFICATION of a report is more difficult in a process-type system. A process report of inventories can be cross-checked with a process analysis of material-use records, machine-loading records, inspection reports, and others that are tied in. In turn, each of these can be associated with other records elsewhere in the system. Naturally, a reporting system must be skillfully designed so that it will produce the maximum of essential information, with the optimum number of cross-check interrelationships, but a minimum of duplication.

2. *Application of statistical sampling in reviewing reports*

Where there is improper emphasis and application of the "exception principle," management may become overly dependent on post-audit review of those problem areas left unresolved by lower levels. We have already pointed out some of the defects of such an arrangement. Summarized they are: (1) a tendency to hide certain problems under the rug, hoping they will be solved soon on the lower level, or forgotten at the top; (2) a tendency to get problems too late to rectify them except at higher costs; (3) a tendency to develop an attitude that a problem is evidence against a group, thereby endangering one's job or promotion. By application of the most elementary concepts of statistical sampling one can introduce a current, or running, audit into a reporting system.

Reported problem areas may be reviewed completely, as is usually done. Proposed solutions are evaluated and after their application the process is carefully watched until definite correction occurs. Basically, in some form or other, this is the pattern now used. In this way the executive maintains a form of a current audit and even manages the area directly for a while.

Non-problem areas, seldom reviewed regularly in most organization reports, should be handled differently. By application of the concepts of random sampling a number of reports should be called up for review as part of a current audit. The purposes are manifold, and these should be clarified to the reporting agencies. The first reaction of the reporter may be, "Is the accuracy of my report being challenged?" This may actually be the case, but this is neither the only, nor the most important reason for the procedure. By raising the issue we probably will keep men on their toes maintaining accurate reports that can pass close scrutiny.

By using a current audit, management is doing much more than checking the process and the report. Both the reporting agency and the recipient are evaluating and reevaluating: (1) the type of report required; (2) the quality of questions posed; (3) the basic definitions and methodologies involved in the tables and formulas; (4) the kinds of data needed and their availability; (5) the degree of creativity and idea exchangeability present in the two management levels. Changing conditions may have outmoded some of our definitions, or questions, or in fact, the very reason for the report itself. Hardening of the arteries of communication may have closed a group off from modifications needed in some part of the reporting system. There are times when our own limitations prevent our recognizing the morale problems a certain type of report may be creating in the organization. Such conditions can be brought to light by a current audit if it is kept on an idea-exchange basis, not as a police investigation. Clearly, rapport will depend on management's attitude, and its ability to imbue others with the attitude that free exchange of ideas means mutual growth, not enervating criticism.

Even when probing within the problem and non-problem areas, one finds that proper application of sampling methods for auditing reports can prove more enlightening than an overall summary review. Sampling a process allows depth analysis in a confined area which will clarify relationships that are too often clouded by summaries. It focuses attention upon deviations which are generally the important areas to study. Further, the procedure is usually more economical, giving a greater return of understandable information per dollar invested, than the mass summary attack. Statistical sampling techniques have now been developed into such powerful tools that management is foregoing a great deal if it does not apply them to the reporting aspects of control. The business world has witnessed the power of this analysis in quality control, the next reasonable step would be to extend it into the auditing of reports.

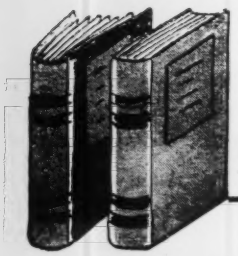
3. *Acceptance of reported problems as part of dynamic management (Managing problems to reduce ego-involvement)*

Managers of agencies who must furnish reports are often too much concerned with the adverse consequences they face if a report shows that problems exist in their organizations. This can be true to such an extreme that, in one case, a manager refused to allow evidence of any rejections of inspected parts to get into his monthly reports on production. The absurdity of a perfect record on thousands of parts, month after month, is palpable, but to him it was a psychological necessity because he was convinced that this was the open road to promotion. Obviously, all it did was to close the road to the study of production problems, until top management was made aware that the "exception principle" applied here to the report and not to the reported information. This attitude is not solely attributable to the personality of the report giver; it is probably as much due to the narrow view taken by top management toward problem-management and promotions. In this case, the comparative method used to judge managers definitely was a major contributing cause.

PROBLEMS are generally due to a combination of internal organization, external events, plus human relations. Relatively few difficulties are due solely to malfeasance, misfeasance, or incompetence of the individual. Where these exist, naturally, one may expect the responsible person to hedge and hide the situation. But where the avoidance response is present in other situations, it indicates that the person is excessively ego-involved in his activities. As long as he remains so, his mental efficiency will be seriously diminished by lack of objectivity and unwillingness to communicate. If the first objective of a reporting system is to bring problem areas to the surface so that they can be defined, clarified, researched, and solved, it will be thwarted by him. If the second purpose, of nearly coequal importance, is to exchange ideas on solutions with other divisions of the firm, it will again be defeated.

We are all well acquainted with the fact that promotional systems are often geared to a "good clean record." Per-

(*Continued on page 29*)



New Management Writing . . .

S.A.M BOOK SERVICE

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General Management Theory and Practice

A-23 Organization and Management In Industry and Business — William B. Cornell and Huxley Madeheim. 564 pp. Ronald. 1958. $6.50.
The fourth edition of a well-known basic text which deals with the fundamental principles and practices in the organization, management and operation of a business or industrial enterprise. The book is primarily intended for use in introductory courses in schools of business and colleges of engineering. The new edition contains up-to-date information on automation, linear programming and recent developments in other management fields.

A-24 Managerial Psychology—Harold J. Leavitt. 303 pp. Chicago. 1958. $5.00.
A practical and readable guide to the problems that anyone in a management position is likely to encounter in relations with fellow workers and employees. Drawing on the latest research in the psychology of personality and social psychology the book proceeds from considerations of understanding other people as individuals to understanding how groups work.

A-25 The Republican Era, 1869-1901 — Leonard D. White and Jean Schneider. 415 pp. Macmillan. 1958. $6.00.
A continuation of the unique study of the administrative history of the United States government written by one of the country's greatest authorities on public administration. Covers the years from Grant to McKinley which mark the beginnings of modern administrative practice in the government.

Management Tools and Techniques

B-44 The Executive Management of Personnel — Edward Schleh. 232 pp. Prentice-Hall. 1958. $5.65.
A review of the elements of successful personnel administration centered around the factors which lead to getting the most from a group of employees. Covers work incentives and pay plans, standards, supervisory relationships, training, labor negotiations and evaluation of results.

B-45 The Evaluation Interview—Richard A. Fear. 300 pp. McGraw-Hill. 1958. $6.00.
A professional guide to employment interviewing covering techniques and methods of securing and evaluating information about potential employees and ways of weighing such information to predict job performance.

B-46 Understanding Collective Bargaining—Elizabeth Marting, editor. 415 pp. American Management Association. 1958. $7.50.
A comprehensive discussion of collective bargaining from the point of view of the executive who does not specialize in industrial relations. Over forty authorities discuss — in non-technical language — ways of preparing for contract talks; functioning effectively at the bargaining table; and handling of various contract clauses.

B-47 Safe Management of Pension and Welfare Funds — Irvine L. H. Kerrison, editor. 54 pp. Rutgers. 1958. $4.00.
A collection of papers covering this key problem which were presented to a special conference of management, government and labor leaders in 1957.

B-48 Contract Specifications and Law for Engineers—Clarence W. Dunham and Robert D. Young. 558 pp. McGraw-Hill. 1957. $7.50.
A thorough introduction to the mysteries of relevant legal documents designed for both practicing engineers and students of engineering. Useful guidance in an important field where engineers frequently find themselves beyond their depth.

B-49 What Makes Women Buy—Janet L. Wolff. 305 pp. McGraw-Hill. 1957. $6.00.
Subtitled "A guide to understanding and influencing the new woman of today," this book provides valuable insights into marketing and advertising techniques which will have maximum appeal to lady buyers, who, as every husband knows too well, spend most of the money in the U.S. today.

B-50 The Executive's Guide to Accounting—Harry S. Wittner, CPA. 310 pp. Prentice-Hall. 1958. $7.50.
A non-technical guide to management men who are not accountants by profession on the things they need to know to understand accounting information and use it effectively for decision making and control of operations.

B-51 Practical Financial Statement Analysis—Roy A. Foulke. 732 pp. McGraw-Hill. 1957. $10.00.
The fourth edition of an authoritative work in its field. Includes new material on classification of balance sheet items and comparative financial statements.

B-52 Materials Handling Applications—Oliphant D. Haynes. 397 pp. Chilton. 1958. $12.50.
A practical guide to engineers facing specific materials handling problems. Reviews various types of equipment and their adaptation to different jobs and situations.

B-53 New Techniques in Marketing Techniques—Harry Simmons. 254 pp. Prentice-Hall. 1958. $7.50.
A dynamically written distillation of up-to-date information on techniques of marketing management. Covers operating tools and methods in a comprehensive way.

B-54 Modern Business Statistics—John E. Freund and Frank A. Williams. 554 pp. Prentice-Hall. 1958. $10.00.
An introduction to the basic ideas of statistical method projected against the background of the kinds of information that are useful to effective management.

B-55 Ideas in Process—C. Merton Babcock, ed. 448 pp. Harper. 1958. $4.00.
A valuable collection of outstanding short articles and essays covering various aspects of the art of communication, which is increasingly being recognized as the essence of effective management. Articles in this anthology cover all of the various communication skills — reading, writing, speaking and listening.

Personal Development

C-12 Oral Communication of Technical Information—Robert S. Casey. 206 pp. Reinhold. 1958. $4.50.
Detailed guidance to the technical man in a relatively neglected area . . . presenting technical information orally in an accurate and understandable way. Covers methods of organizing, preparing and delivering technical reports.

C-13 Manual of Technical Writing — Wilbur O. Sypherd and others. 560 pp. Scott, Foresman. 1957. $4.00.
A revised and enlarged version of a well-known work formerly titled, "The Engineer's Manual of English." Covers its important subject in a clear and concise way which will be helpful both to technical students and practicing engineers.

C-14 The Personal Affairs Handbook — Jacob S. Spiro. 271 pp. Hawthorne. 1958. $3.95.
A basic guide to family financial and legal problems written by a leading New York lawyer. Takes up financial and legal aspects of different periods of life of the normal family, from marriage to estate administration, and covers such subjects as budgeting, family relations, life insurance, investments and wills. Particularly useful appendix is called a "family fact register" and provides a place to record all the basic data which is sometimes terribly important just when it is the hardest to find.

The Wider View

D-16 Inside Russia Today—John Gunther. 574 pp. Harper. 1958. $5.95.
A fascinating close-up look at the daily life of people of all kinds in Russia today projected against a background of major internal political events and trends. Tells about the attitudes of the Russian people toward Americans, their government and many other subjects in the lively and knowledgable fashion which made the works of this distinguished reporter so widely read.

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The 1958 Gilbreth Medal Award was presented to Mr. Schwab during the recent S.A.M-A.S.M.E Management Engineering Conference, held in New York. This paper was given by Mr. Schwab in acceptance of the award.

The Gilbreths' Principles—Ideals Of Our Profession

by John L. Schwab

Engineer, Teacher
Author and Researcher
John L. Schwab & Associates
Bridgeport, Connecticut

UNDOUBTEDLY, every recipient of an award as great as the Gilbreth Medal attempts to find new and different words to express his appreciation. I am equally certain that at this special moment his memory recalls the great numbers of people whose assistance, guidance, inspiration, and instruction are in a large measure responsible for the award which he is about to receive. In both cases, I am a real conformist. Rather than struggle for words, it seems fitting that I should use the briefest and yet most heartfelt manner of expressing my appreciation to the Society for the Advancement of Management in general, to the Bridgeport Chapter and the Northeastern Region of S.A.M, and to the hundreds of others, friends and associates to whom I am eternally obligated. To you, I say sincerely—Thank You!

To me, the most important phase of this occasion is that the award is presented to me by Dr. Lillian Gilbreth. I will not eulogize her contributions to mankind for it would be redundant and I would truly embarrass her. I will ask only one thing: have you ever realized what a rarity it is to have the great and significant developments of a person's life recognized by the world during his or her life time? Such honor and recognition as Dr. Gilbreth has so rightfully received are granted to very few people in history. Please remember that. Those recipients of such recognition are only those whose contributions have been numbered among the greatest. I need not say more to cite the magnitude of her accomplishments. I would just ask the privilege of saying a very special and personal "thank you" to her alone.

Unfortunately, the true intent and value of occasions such as this are misconstrued. Many people believe that the award of a medal to an individual is solely as a recognition of the recipient's contribution to a cause. If this concept were true, and if this were the prime purpose of awards, they would merely be instruments of selfish flattery.

It is obvious that the purpose of the Gilbreth Medal is directed to far more important ends, since its prime purpose is to serve as an inspiration to management in general as a constant reminder of the opportunities available to every man in the field of management, and as a reminder of the obligations which he bears to his fellow men. As such, this award must provide a real stimulus to each of us to continually rededicate ourselves toward the broad principles developed and exemplified by the life of the man whose name it bears. These are the basic purposes of this award; hence, its value. I would be remiss in my obligations if I did not use this occasion to attempt to summarize these goals which I believe Frank Gilbreth personified. It is particularly apt and opportune that a review of the objectives, principles and ideals of the late Frank Gilbreth and his wife, Dr. Lillian Gilbreth, be restated now since the multitude of technical developments made during the past decade are causing many to deviate from these basic goals which time and techniques cannot change.

Mr. Schwab co-originated the Methods-Time Measurement System which is recognized, accepted and published throughout the world as a basic tool of the scientific management profession. His reputation as a top expert in manufacturing, production and management engineering continued to grow as he became Chief Industrial Engineer of the Bryant Electric Company, then Vice President of the New England Division of Methods Engineering Council and, finally, as President of his own consulting firm. Mr. Schwab co-authored the text book, METHODS-TIME MEASUREMENT (McGraw-Hill, 1949), and is author of the section on MTM in the INDUSTRIAL ENGINEERING HANDBOOK (McGraw-HILL, 1956). Soon to be published are his textbook on MTM in the Needle Trades and Master Material Handling. Together with Dr. Lillian Gilbreth and Dean Elizabeth May of the University of Connecticut he has sponsored and developed the film, "Where There's A Will," an application of management engineering principles for the disabled homemaker.

CITATION

The 1958 Gilbreth Medal Award was presented to

JOHN L. SCHWAB

For his past and current research in the quest of developing the measure of human effort on a scientific basis, which is one of the fundamental problems whose solution was sought by Frank B. and Lillian M. Gilbreth.

For his development and application of these technical and scientific data to the business world, contributing to the broader acceptance of these principles and techniques.

For his development and application of scientific management principles to humanics, as exemplified by his studies and activities to help the physically disabled, and for his promotion of these worthwhile aims and projects to others in the management field.

For his activities in advancing and promoting the principles and objectives of scientific management to and through such organizations as the Society for Advancement of Management and other leading professional and technical organizations.

For his current research studies designed to bring about a better understanding between scientific management and the medical profession, via neurological, psychological and mechanical measurements of human effort, by mathematically proving their interrelationship.

For following at all times the best tradition of the Gilbreths.

For these reasons, among others, the Society for Advancement of Management takes pride and pleasure in presenting this award.

S.A.M Awards Presented at Annual 1958 S.A.M-A.S.M.E Management Engineering Conference

THE two-day 1958 Annual S.A.M.-A.S.M.E. Management Engineering Conference, held at the Hotel Statler in New York City, brought a responsive audience from all over the country to participate in the stimulating and informative program arranged by the conference committee made up of Society for Advancement of Management and American Society of Mechanical Engineers members.

The yearly awards made by S.A.M and A.S.M.E were presented to recipients at the two conference luncheons —S.A.M Awards at the Thursday luncheon and A.S.M.E Awards on Friday.

The A.S.M.E Fellowship Awards for 1958 went to Arthur M. Perrin and Fenton B. Turck, with A.S.M.E President Robert Hess making the presentations.

S.A.M's Gilbreth Medal Award was presented to John L. Schwab of Bridgeport, Connecticut, by Dr. Lillian Gilbreth. The Society's 1958 Materials Handling Award went to R. Frank Weber of *Modern Materials Handling*, and Warren J. King, McGraw-Hill Publishing Company editor made the presentation.

The acceptance speeches of Mr. Schwab and Mr. Weber are published in this issue of ADVANCED MANAGEMENT.

(Left to Right) **Warren J. King,** McGraw-Hill Publishing Company editor, presenting the S.A.M 1958 Materials Handling Award to **R. Frank Weber,** with S.A.M National President **Homer E. Lunken** observing.

(Left to Right) **John L. Schwab,** President, John L. Schwab Associates, Bridgeport, Connecticut, receiving the 1958 Gilbreth Medal Award from **Dr. Lillian Gilbreth** as S.A.M National President **Lunken** looks on.

The objective of Frank and Lillian Gilbreth's work was and is the search for and the discovery of truth in order to better man's way of life. This fact is obvious to all. Here, as in all other great endeavors and developments, man tends to become obsessed with the technical details of life and overlooks the true implications of his work and his real contribution to humanity. Perhaps this is inevitable since science is usually more tangible, and physical things are much easier for man to comprehend and accept. When Russia spawned its first satellite, we immediately became alarmed and the skies were deluged with all types of ideas, both logical and illogical, for speeding up scientific education and for developing more and better nuclear weapons. I am wholly in accord with the need for more and better scientific education; I subscribe wholeheartedly to the need for protective scientific weapons. Yet deep in my heart and mind I am nagged by the one thought which is uppermost—namely, *that the urgent need for these weapons and accelerated scientific development and education is a result of the failure of man's social awareness and education.*

This recent impetus to improve our scientific knowledge has been out of fear. Perhaps this is the way destiny has planned it; I don't know. However, such knowledge is relatively unimportant. The fact remains that our *social* growth has not kept pace with our technological development. This condition must be corrected. We must never become so obsessed with the technical details of living that we lose sight of the real fundamentals of human endeavor and aspiration.

Everyone who has had the pleasure of knowing Dr. Lillian Gilbreth understands how deeply Frank Gilbreth was dedicated to this principle. Mrs. Gilbreth's book of her husband's life, *The Quest of the One Best Way* described their dedicated search in the quest for Truth. It leaves no doubt that both believed that the One Best Way would never be found, for that is not within the plan preordained for man. However, they truly recognized that the Quest itself would provide the ultimate means for man's achievements of happiness, self-satisfaction and continual growth.

The lives of the Gilbreths as planned and as followed, were dedicated to progress—progress which could be achieved in a climate and under conditions which provided man with 1) an opportunity to create, 2) a recognizable opportunity to contribute to the welfare of others, 3) a personal desire to improve one's own social and economic status. All three conditions must exist if the manager is to fulfill his obligation to society since one is no more important than another.

The material or economic development and progress is one part of the

CITATION

The 1958 Material Handling Award of the Society for Advancement of Management was presented to

R. FRANK WEBER

For his pioneering work in the field of Material Handling during which he received the well-earned title of "Dean of Industrial Packaging".

For his work in establishing, in 1924, the first Material Handling Research Laboratory at International Harvester Company where many of the cost reducing methods and techniques developed under his direction have become standards for the industry.

For his outstanding contribution to the country during World War II through his work in helping to organize the Ordnance Department's Packaging Section, and since that time for his service as a prominent member of various advisory committees to the military.

For his skill as an author and educator, by his eminence as a spokesman, and by his creative thinking he rightly deserves the selection as the 1958 recipient of the Society for Advancement of Management's Annual Material Handling Award.

three-pronged basis of progress. It serves as a means for improving the material welfare of all, and as a tangible, understandable record of development. Contribution to the welfare of others is the basis of charity and of love, and is an obligation which is inescapable. Creation by man—whether it be children, new ideas, or new products—is a must for the continuation of life itself.

On the negative side, the desire for material and economic development alone is selfishness and usually forms the basis for conflicts. Contribution to the welfare of others cannot be practiced alone, for the sources of these contributions, whether they be ideals or material goods, must be constantly replenished. Creation for creation's sake is meaningless by itself, for ideas or devices are worthless until made available to mankind.

Such contradictions need further explanation. Their meaning is so important that I will attempt to explain them further.

What was the need to create a part of Frank and Lillian Gilbreth's philosophy? Very obviously and very practically they recognized man's basic desire to attempt to emulate his Maker. This being so, it is apparent that one of man's fundamental desires would be to

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S.A.M and Materials Handling

by R. Frank Weber
Consulting Editor
Modern Materials Handling
Milwaukee, Wisconsin

SINCE World War II American industry has made extraordinary progress in adopting improved techniques in their manufacturing and management operations. High among these notable achievements are the advances that have been made in the field of materials handling.

The Society for Advancement of Management, in evaluating the newer concepts for the benefit of management, recognized this trend in materials handling while in its initial stages of development. This organization has done an outstanding job in the promotion of better materials handling, for its members as well as for the overall materials handling profession, under the leadership of a Material Handling Division at present headed up by Warren J. King, editor of McGraw-Hill Publishing Company.

The prominence of the Society for Advancement of Management in this field is further emphasized by its presentation of an Annual Materials Handling Award to the individual who has made an outstanding contribution in the field. This award, presented to the writer at the annual S.A.M-A.S.M.E Conference at the Hotel Statler in New York City, on April 24, is a significant factor in providing the incentive for leadership and excellence in the promotion of the best in materials handling. Furthermore, I feel the Society for Advancement of Management is doing much, by granting this award, to elevate the materials handling profession to a very high position. Based on 35 years of activity in this field, I believe anything I have accomplished to be awarded this recognition in large part has been due to the help of my associates and fellow members in handling and packaging. For the benefit of the S.A.M membership and others receiving the *Advanced Management* publication, I would like to state some of the highlights in the coordination of materials handling and packaging, which is a trend of real value to industry and the services today.

Coordination of Materials Handling and Packaging

The annual packaging bill of the United States approximates 15 billion dollars. Sixty percent of this amount is in packaging materials and facilities; 40% is in handling operations. This phase of handling may be defined as every movement of the package from originating source to delivery of the finished product. For the average package this means at least 20 handling operations.

In most industries today it is the responsibility of the materials handling engineer to coordinate all of these movements with the packaging operations, to give the maximum protection to the product and to combine as many of the handling operations as possible. He takes on the role of "Coordinator" and should have first-hand knowledge of the entire cycle of movement. In a way, he is a consultant for the overall company activities related to (1) product protection; (2) cost control; (3) customer acceptance.

Mechanization plays a big part in handling and packaging coordination. This is a big factor in reducing costs. It also helps in the quality improvement program, in the elimination of many manual handling and packaging operations. The trend in industrial packaging (outer containers) is rapidly progressing toward mechanized equipment.

The planning and organizing of the

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R. FRANK WEBER is recognized as the Dean of Industrial Packaging. He established the first Packaging and Materials Handling Research Laboratory, at International Harvester Company in 1924, where many of the cost reduction methods and techniques developed under his direction have become standards for industry. During World War II Mr. Weber helped organize the Army Ordnance Department's Packaging Section and has since been a prominent member of various military advisory committees. He lectures regularly at annual conferences held at Purdue and Tulane Universities, and is a frequent lecturer before such technical and professional groups as SIPMHE, AMA and AMHS.

create. What to create cannot be defined by man, and its importance cannot be measured by you or me or others. What each of us is able to create is obviously a part of a preconceived master plan, whose value, current history and opinions cannot conceivably measure. As an example, the performance of the juggler at the altar and its resultant story, told and retold each Christmas, may have done more to help mankind in its quest for truth and happiness than many of the more tangible creations recorded by history and science. Perhaps the only value which we can place on a creation is the one which Frank and Lillian Gilbreth evidently believed: that its worth can only be measured in terms of its contribution to the happiness and well-being of others.

THE second goal to be gained from a review of the Gilbreths' lives is the importance of contributing to others. These contributions cannot be described in terms of specific techniques. Perhaps the only meaningful definition which can be applied is that a true contribution to the welfare of others must be an idea, a deed or a device which enables another man or group of men to achieve self-progress. This may be contrary to common concepts of what makes a man successful in a materialistic society, but nevertheless, it is true. It is easy to level the cry of daydreamer or idealist on one who minimizes the importance of the inherent traits of jealousy, selfishness, and the like, which apparently preclude the possibility of contribution to others. I, for one, refuse to accept the fact that jealousy and selfishness are overriding human traits. To me, they are animal traits, necessary for life in an animal society. The difference between man and animal is the ability of man to reason. Thus, if reason is present (as it should and will eventually be) in men, jealousy and selfishness will not be deterrents.

Creations are easy to visualize and comprehend, but what are these contributions which the Industrial Engineer is obligated to make? One need only look at the activities of Dr. Lillian Gilbreth to appreciate many of them. Consider her vital work for the improvement of the welfare of disabled mothers, her developments of improved methods for hospitals, her application of Industrial Engineering principles for the aid of paraplegics, the community assistance plans throughout the world which she has inspired, her work with governmental bureaus for improved clothing designs, for helping the underprivileged, and above all, her dedication to the development of international understanding of our American way of life and our motives. This list could be added ad infinitum. These are typical of the contributions which we are both obligated *and* equipped to make to society.

The third of Frank Gilbreth's basic objectives was the improvement of the social and economic status of man. This objective is easy to understand, for here one encounters the technical aspects of motion study, Industrial Engineering work simplification, and the like, so well-known, publicized and used by all of us. These are easy for us to understand since they are a part of our day-to-day job and form the technical part of our lives and our profession.

This, then, is the firm and balanced tripod from which progress may evolve. Again, it must be emphasized that Frank and Lillian Gilbreth place equal importance on each of these three objectives. Over-emphasis of any one aspect will create unbalance which hinders and distorts the aim through misunderstanding and misapplication, resulting in failure to progress, or at the very least, causing us to adopt a long and devious path to the goal. Whether we speak of man as part of a group or as an individual, balance is a must if we are to follow in the path to the goal the Gilbreths have drawn. We must honestly consider and evaluate our conformance to these principles. My own personal belief is that we have deviated greatly from them, and before proper correction can be made to stimulate our growth as a profession, we must recognize the error in what we are doing wrong.

One concept needs emphasis. This nation was founded on, and Frank Gilbreth deeply believed in, the concept that man is an *individual* and an all-important being. Thinking men universally recognize that individuality must be maintained under conditions which also demand that men live and progress together. It requires a fine balance and carefully developed organization of conditions to enable both of these requisites to be met.

Since science is predicated on conformity to natural laws, we have adopted standardization, one of our basic goals in the field of Industrial Engineering and Scientific Management. This tends to conflict with man's desire for individuality. To minimize this conflict, we must accept the fact that standardization and conformity can only be accepted by the individual when based o true facts derived from provable an tangible factors rather than me opinions and assumptions. Witho tangibility, standardization serves as source of controversy. If based on tan ble and accepted reproducible concep such standardized principles and da become sources for agreement. This the basis of a true science.

We have come far in our developme of Industrial Engineering technique The last ten years have seen the cre tion and acceptance of new and i proved tools to help us make fac tangible and reproducible. Such thin as statistical quality control, moti time procedures, improved time stu rating devices, operations research- these are but a few of the literally hu dreds of developments which have be evolved. Yet all of us must recogni that these techniques and devices a still in their infancy. They have n yet been developed to a point whe rigid rules and specifications are neede desirable, or practical.

Industrial Engineering as a profe sion is only a century old. This peri of time is merely a wink in the histo of mankind. Obviously, we cannot e pect our profession to have achieved t same level of development as the oth engineering sciences begun so mu earlier.

There are other important reaso which explain why the profession Industrial Engineering has not and pe haps never will reach the same level Electrical Engineering, Mechanical Eng neering, etc. We must remember th Industrial Engineering is not a physic science wherein patterns and conditio are fixed for experimentation or whe the methods and procedures are bas on physical or natural forces and la which conform to predictable mat matical patterns. Industrial Engineeri is the engineering of people's effo where we are attempting to create science for an area governed by t most mysterious, unexplored part man: his brain. I am both confident an hopeful that we cannot now nor w we be able in the future, to adopt rig rules for conformity and standardi tion, since this is contrary to the natu and purpose of the subject we are inte ing to engineer.

It is important that we become mo objective and factual in our explan tions of our work and our portrayal our objectives to others. This also

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Typical S.A.M Chapter Civic Affairs Activities

THIS REPORT on S.A.M Civic Affairs will outline typical Society activities in community projects all around the country.

In addition to the following full reports, other chapters presently engaged in formulating plans or working on projects for Civic Affairs improvements in their communities, include Atlanta, Detroit, Chicago, Kansas City, Northern New Jersey, Richmond, Cleveland, Reading (Pa.), New Haven, Los Angeles, Madison (Wisc.), Baltimore, Providence, Cincinnati, Boston, San Francisco, Western North Carolina, Portland, Alabama, Long Island, Knoxville, Dayton and Hudson Valley (N. Y.).

Hawaii Chapter Helps The Blind

THE Territory of Hawaii Bureau of Sight Conservation administers a rehabilitation "Shop for the Adult Blind" in Honolulu. At times as many as twenty-five blind men work in the shop manufacturing "corn" brooms, string mops and buttons made from coconut shell used on "Aloha" shirts.

In 1952, the Industrial Engineering Society of Hawaii (on the Hawaii Chapter of S.A.M) was asked by the Bureau to try and improve the productivity of the blind workers in the button shop. Five members of the Society volunteered to undertake a methods and economics study in answer to the request.

Chairmanned by D. M. Miller, then a consulting engineer with Albert Ramond & Associates, the study committee consisted of D. V. Phelan and J. A. Ray of the Hawaiian Pineapple Co., A. T. Hanson of Castle & Cooke Terminals, Ltd., and the author, then with Libby, McNeill & Libby.

Wages in the shop were low, and production per man-hour at the prevailing price was so low that the gross returns barely covered the wages. Almost all other shop expenses were paid by the Territorial government. The blind workers were fully aware of this situation. To them it meant they were recipients of charity and not earning their way, with the result that morale was very low. Obviously, in that atmosphere rehabilitation efforts were almost fruitless.

The process of producing buttons from coconuts is very simple. It was complicated, however, by the fact that the workers were for the most part completely blind. A few had a little vision, but generally only enough to distinguish large objects.

The first step in the process was to cut coconuts into quarter sections on a band saw. This was considered too dangerous for a blind man and was done by the shop supervisor or his maintenance man, both of whom had normal vision. From that point on, until the point of final inspection of the completed buttons, all operations and transportations between operations were performed by blind workers.

Briefly, the sequence of operations after quartering the nuts was as follows: 1) Removal of meat, 2) Removal of husk, 3) Sanding of convex surface—4 stages, from coarse grit to fine grit, 4) Buffing and polishing—2 stages, 5) Cutting blanks or disks, 6) Screening to remove dust and chips, 7) Facing back surface to standard thickness, 8) Screening to remove dust and chips, 9) Drilling and fish-eyeing (the fish eye is the small groove cut into the face of the button across the two thread holes so that when sewn on the garment, the thread is recessed), 10) Screening to remove dust, and 11) Inspecting and sorting.

One of the more interesting operations is that of cutting the blanks or disks from the polished shell (step #5). Visualize a drill press operating at maximum speed, with a small cylindrical saw, much like a dowel cutter, as the cutting tool. Then take a quarter section of coconut shell in an infinite variety of sizes, depending upon the size of the original nut and how it was quartered, and cut from that shell the maximum number of blanks possible. A worker almost totally blind was doing that job as well as, if not better than, an unhandicapped man, with what appeared to be a complete lack of concern for the danger potential of that whirling saw. The man on the operation at the time of the study had been there about two years. He had never had an accident.

At the time of the study, average production of the shop was about 110 buttons per man-hour. While sales price varied for different sizes and quality of buttons, the average return was $6.00 per 1,000. At that level, the return from sales per man-hour of production was $.67. Average wages were $.51 per hour.

Our first point of attack was the production process itself. The flow was charted and studied. Time studies of each operation were made to determine its productivity and where the bottlenecks, if any, were located.

While our desire was to increase productivity, we did not want to accomplish this at the expense of laying off workers since, if they were laid off, they would immediately go on welfare and the opportunity for rehabilitation would be lost. It was decided, therefore, to keep the operation essentially as it then existed. Where it might have been possible to combine facing, drilling and fish-eyeing so as to be done by one man, it was decided to leave that at the existing two work places. It was also possible to combine sanding and buffing, but again because of our desire to maintain work opportunity, these were kept separate.

One major change made was to reduce the sanding from four stages to two. This required the same two men who had formerly done the work, but the change increased their output. Another change was to saw the coconuts in thirds rather than in quarters. It was not possible to go to halves because that impaired the productivity of the disk-cutting operation. All screenings, except the final one, were eliminated by installing wire mesh chutes under the disk cutter, the facer and the driller thereby automatically screening out dust and chips as the buttons dropped upon completion of each operation.

It was decided not to change the layout of the shop, although there would have been some improvements in transport time and distance as a result, because the blind workers were familiar with the existing layout, therefore their movements were sure and clear of danger spots. The savings that would have accrued did not justify the disruption that a layout change would be sure to cause.

Our next point of attack was the market and marketing situation. The manager of the shop, in addition to doing odd production jobs too dangerous for blind workers, was the supervisor, maintenance man, personnel man and also the salesman. His only assistant in this multitude of tasks was one man who was primarily responsible for maintenance of the many button, mop and broom-making machines. As a result of this load, the manager was able to devote very little time to sales, and was unable to keep abreast of prices and market conditions.

A survey made among garment manufacturers revealed that some of them were not aware of this source of coconut buttons. Furthermore, they were paying a higher price for buttons they were using than was being charged by the blind shop. Others, who were customers of the blind shop, knew they paid less than market price for the blind workers' buttons. It was therefore recommended that the sales price of the buttons be immediately increased by 30%. Slightly imperfect buttons, formerly discarded, were now offered at a lower price than the perfect buttons to some retail outlets where they would not compete with the perfect buttons.

The recommendations were installed, and a follow-up survey six months after the initial study showed the following results:

Production up as high as 40% over previous levels. The former average production was 69,000 buttons per month increased one month during that period to 98,000 buttons. This increase in production, coupled with the increase in sales price, permitted raising the wages of the blind workers to $.72 per hour as compared to the $.51 formerly paid and morale in the shop reached an all-time high. For the first time they were "pulling their own weight".

The Society, as well as the Bureau of Sight Conservation, was much encouraged by the results of this effort. Subsequently, we were asked to study the manufacture of string mops and a similar job was done on that. When it came time to move the shop from its dilapidated wooden structure to a better location, the Society assisted by developing the layout of the entire plant.

Thus, through the years, Hawaii's S.A.M members have become staff industrial engineers for the Bureau of Sight Conservation. The author is a member of the volunteer advisory committee to the Bureau.

The reputation of the Society in the community was considerably enhanced by these projects. Primarily as a result of this project we were asked by the Oahu Tuberculosis and Health Association to assist in improving the self-sustaining capacity of their rehabilitation center called "Lanakila Crafts". Again, a crew of volunteers from the Society embarked upon a productivity and economic study of shop activities.

Lanakila Crafts produces paper leis (garlands of colored crepe paper), raffia hula skirts, set up paper boxes decorated with Hawaiian tapa patterns, and small ceramic wear. Led by Roy Hagstrom of C. Brewer & Co., in Honolulu and a former president of the S.A.M, various teams tackled each of these production problems.

The Lanakila workers, while not blind, were handicapped in a variety of ways. Many were ex-T.B. patients, some were paralytics, some mentally retarded. Methods and facilities had to be designed to permit them to perform productive work in spite of their handicaps. Marketing and pricing also entered the picture as they did in the blind shop.

Until the S.A.M survey this rehabilitation center received continual financial support from the T.B. Association. We are gratified that now Lanakila Crafts is on an almost self-sustaining basis. The only income it derives other than from the sale of its finished products is a small fee charged to the referring organization or health society upon admission of a patient.

We members of the S.A.M have found these experiences extremely rewarding, and the Society as well as the industrial engineering profession, has gained stature in the community as a result of our efforts. ■

Robert S. Gordon

Milwaukee Chapter Guides Junior Achievement

ALMOST from the beginning of Milwaukee's Junior Achievement program to help teenagers learn business by doing business,, the Milwaukee S.A.M Chapter has participated. The manual for advisors and the forms and procedures used by the young people have been developed and revised, incorporating suggestions made by members of SAM committees. Classes for the instruction of advisors have been taught. Individual Junior Achievement companies have been counseled and evaluated. An annual S.A.M award is given for excellence in production and overall management.

At the beginning of each year, the S.A.M committee meets with Production advisors in small round table groups to talk over production problems and methods. The S.A.M

award and the method of rating the companies for it are explained. Throughout the year, Society committeemen are available to the advisors for suggestions in planning production methods and solving management problems.

The 70 to 80 Junior Achievement companies are grouped and assigned to individual committee members for at least three evaluating visits to each company before the end of February. At each visit, the committeeman appraises and records his observations of the production techniques being used. schedules and records of production, work planning, assignments of duties, efficiency of workers, quality standards and methods of maintaining them, and whether the company is actually being run by the Achievers or whether the Advisors are doing it for them. Great emphasis is put on the advisors' role as teachers, not doers.

To qualify for the S.A.M production award, each company is required to file an application containing a series of questions. Answers to these must be agreed upon by all members of the company, without assistance from Advisors, and recorded on the form. The S.A.M committee reviews the award applications and the reports of the three visits to each company in order to select about a dozen companies for final consideration. These are revisited, and a careful investigation of their work since the first of the year is recorded. Three companies are chosen, any one of which is worthy of the award for production excellence. Other Milwaukee societies make similar recommendations for excellence in product design, sales, and finance. The S.A.M committee cooperates with the other societies and Junior Achievement headquarters in choosing from these recommendations the companies to receive the local awards, and the candidates for national honors.

When the awards are announced, each young person in the company winning the production award receives a framed citation. A similar certificate is presented to the sponsoring firm whose employees have acted as Advisors. The Junior Achievement company members and their Advisors are guests of S.A.M at a dinner and program during the month of May, and they are invited to the May meeting of Milwaukee chapter. Sometimes, a special dinner party is given. with the S.A.M officers and directors acting as hosts, and the committee and other Society members attending. A program tailored to their interests follows the dinner. ■

Mrs. Frances U. Vass

Raritan Valley Chapter Pioneers Hospital Services

THE Society's Raritan Valley Chapter-sponsored Advisory Boards for Hospitals began with a pilot board organized in 1951 by General Robert Ward Johnson, chairman of the board of Johnson & Johnson. For the first two years all activities of this Board were the work of specialists from the Johnson & Johnson family of companies.

In 1953 the demands on the pilot Advisory Board were so great that additional manpower was needed. The Raritan Valley chapter then expanded the activities to include manpower from 25 companies, both large and small, in the Raritan Valley.

Some of the organizations participating in the Board are: American Cyanamid Company, Bakelite Company, Benzol Products Company, Boy Scouts of America, Carrol Dunham Smith Pharmacal Company, Chicopee Manufacturing Corporation, E. I. du Pont de Nemours and Company, Ethicon, Inc., Fibreboard Paper Products Company, General Cable Corporation, Hercules Powder Company, Johnson and Johnson, Johns-Manville Company, Lincoln-Mercury Division, Ford Motor Company, Merck and Company, Metallo Gasket Company, National Lead Company, Ortho Pharmaceutical Corporation, Permacel Tape Corporation, Personal Products Corporation, Rutgers University, E. R. Squibb and Sons, and Slingman Industrial Supply Company. Also, two hospitals, Middlesex General and Somerset, have contributed time. Over 60 people from these organizations have participated in this work. The Board tries as far as possible to spread the projects around so that no company or group of people is called on to participate in more than two projects a year.

In the beginning of the project, Johnson & Johnson made available to the Board, at no cost, a full-time executive director, George M. Goettleman. Mr. Goettelman, a member of the original Advisory Board, was charged with coordinating the activities of the local board and preparations to launch the Board's activities on a national scale. Mr. Goettelman later became S.A.M National Vice President in charge of Civic Affairs, and since September 1957 has devoted his full time to the National S.A.M. The impact of his work in forming Advisory Boards throughout the country and how this original Board has served as a pilot operation will be discussed later in this article.

Typical projects of the program of hospital assistance has been carried on in eleven hospitals in the area covered by the Raritan Valley chapter. Space limitations do not permit presenting detailed case histories of the accomplishments made or a complete list of projects undertaken, but the list below covers some of the projects that have been completed:

1. Supervisory training courses for heads of departments and head nurses, which reduced labor turnover.
2. Food service programs which reduced costs or increased revenue conservatively estimated at $100,000 per year in two hospitals.
3. Food preparation project, saving approximately $50,000 per year in one hospital.
4. Noise abatement survey, which reduced patient complaints on noise in one hospital from 35% to 6%.
5. Setting up an administrative council to streamline administrative functions. This enabled one hospital to reduce its personnel by 35 people.
6. Courses in managerial training, conference leadership, merit rating and supervisory development.
7. Projects in wage and salary administration, which reduced labor turnover.
8. Study in Blood Bank functions and records which saved the services of two RNs in one hospital.
9. Parking lot survey at one hospital increased accommodations to 86 cars instead of 45 in the same area.
10. Safety program consisting of a hazard check, evacuation plans and drills, fire drills, accident statistics and educational plans in the hospital.
11. Centralized messenger service program reducing the number of errands performed by nursing service, saved at least three RNs in one hospital.
12. Setting up a message center for disaster control.
13. Survey of purchasing functions, inventory control and warehousing.
14. Linen control projects, including methods and equipment studies in the laundry.
15. Programs of required maintenance, preventive maintenance, personnel records and procedures, central sterile supply and a methods and forms survey for the business office.
16. Counselling of the public relations directors of hospitals in the proper use of public relations and the dissemination of information to the public.

During 1957, the Advisory Board increased its scope of activity to include assistance to public schools. The first project undertaken was a study of the maintenance program of the Raritan Valley school system. This study, which received favorable comment in the local press, showed that the local district had an excellent program, and the recommendation was made that more money should be expended on preventive maintenance.

A second project was the study of the school cafeteria. By rearranging fixtures and modernizing facilities, additional space was gained in the dining area to relieve congestion and a better flow obtained from the kitchen. Also, improvements in the ventilating system were recommended. More school improvement projects have been proposed, including studies of paper work and school bus routes.

Since the Raritan Valley Chapter began conducting a pilot project, considerable attention has been focused on it by other chapters and areas desiring to do something in civic affairs. The Executive Secretary averaged about 20 speaking engagements per year throughout the country discussing the work of the Board. Considerable publicity has been received in newspapers and magazines on specific accomplishments in hospitals, and in general informational articles. To aid this work in individual communities, several brochures were printed and distributed on request. Over 5,500 copies of the most popular one, entitled "May We Help?", have been distributed throughout the United States and Canada. At the present time 29 advisory boards have been formed at other locations. In addition, many case studies covering specific projects conducted were written up and distributed on request.

The Board plans to continue serving the hospitals and public schools in the area covered by the Raritan Valley Chapter, and to expand activities into other fields of endeavor where the need is indicated. The necessity for such a service exists and will continue to exist. This program offers S.A.M chapter members and the firms they represent a real opportunity to fulfill a community need. ■

Richard Howe

Philadelphia Chapter's Hospital Project

THE most ambitious part of our program over the years has been in extending Work Simplification Training to Hospital Administrators and Supervisors. Allied with this has been the Work Simplification Training extended to City Supervisory Employees More than 140 hospital personnel and 80 city employees have been given training in Work Simplification. The courses included work on specific projects, presentation to and discussion by the groups, reporting and follow-up.

Continuing activity has assisted YMCA's in management problems; in establishing job evaluation and job description procedures, and S.A.M sponsored courses in principles, tools and skills of management.

Each year the Philadelphia S.A.M Chapter participates in the city's Regional Safety and Fire Conference and Exhibit, arranging a presentation session as part of the Conference. A new area added this year was the Industry Advisory Board for Hospitals.

Review of our Hospital Work Simplification Training with the hospital administrators indicated a need for a program to provide benefits in a faster and more direct manner. The presentation of the Industry Advisory Board approach was enthusiastically received by hospital authorities and plans made to adopt it. A Hospital Administrator's Committee was established, and an Advisory Board of S.A.M personnel organized to carry out the plan. A Coordinator was designated for one hospital and volunteers are now working on three projects in that hospital.

Richard P. Schneider

Washington, D.C. Chapter Evaluates United Community Services

SEVERAL members of the Washington, D. C., Chapter of S.A.M participated in a civic affairs project to evaluate the programs and operations of the committees, departments and planning sections of the United Community Services. The UCS is the agency concerned with planning the health and welfare needs of the District of Columbia and with distributing Community Chest funds.

Although the UCS is a relatively large public welfare agency serving a community of over 850,000 population with 100 health and welfare agencies, with budgets aggregating $50 million per year, it has a full-time professional staff of only ten. Like many other organizations, the UCS had a wholesome desire for an appraisal of its management but did not have sufficient funds to finance a review by technical experts or professional consultants. Since it was known that the Washington, D. C., Chapter of S.A.M included members with private consulting experience, they were called upon to contribute their time towards such a review as a public service.

An important preliminary and continuing step throughout the evaluation studies was to draw upon the extensive background of the Executive Director of the UCS and his full-time professional staff. Without this wholehearted and objective cooperation it would not have been possible for us to have completed our work. Preliminary orientation meetings were also held with the heads of the various groups being studied and, where appropriate, a personal inspection was made of the space, equipment, and other office facilities.

A basic step in the evaluation process was for the study committee to meet with representatives of each of the two main organizational segments of UCS. At each of these meetings, a regular procedure was followed allowing for review of the activities, plans for the future, and suggested changes in organization, administrative procedures, and relationships with agencies or others concerned with UCS operations. Many useful suggestions for improvements were obtained during the course of these meetings.

Following these meetings, conferences of the full Evaluation Committee were scheduled to sift the information and views that had been gathered and to point up issues for further discussion. On the basis of information obtained at these meetings, conferences with Government and local officials, personal inspections by members of the Committee and an analysis of scheduled information submitted by the staff, the evaluation was completed. Drafts of detailed reports were then prepared and reviewed until satisfactory to all concerned. Over a period of almost two years, the Committee prepared and submitted two main reports to the UCS.

The first report on the Organization of Administration of e UCS started by setting forth a groundwork of general bservations and problems confronting a public volunteer gency. For example, it discussed the problems of coordina- on unique to such an agency. Pointing to juvenile delin- uency and problems of the aging to illustrate that com- unity health and welfare issues are all pervasive in their mplications, the report stressed that such community prob- ms must not be isolated and placed in watertight compart- ents. Yet, as a practical matter it is necessary to establish eparate organizational units to concentrate on specific hases of these problems. To insure a sound overall pro- ram there is a continuous need for coordination among e various units dealing with these diverse problems. The eport stressed the fact that even in the case of more limited roblems, information in one unit must be passed freely to ther units for their use. For example, the Membership and udget Departments have vital need for information about ember agencies that is available in the Planning Sections.

In July 1957 a reorganization was made and the name f UCS changed to the Health and Welfare Council of the ational Capital Area—implementing many of the Evalua- on Committee recommendations.

Another project of the Evaluation Committee was to study e organization for handling problems of the aging.

The UCS Executive Committee passed a resolution direct- g that the UCS Evaluation Committee, in cooperation with embers of the former Committee on the Aging, study the sults of the operation of the former committee over the ast three years and recommend what action the Executive ommittee and President should take, and what its functions hould be. In the course of carrying on this assignment, embers of the Evaluation Committee held meetings with embers of the Committee on the Aging and others for the urpose of reviewing the work and accomplishments of this roup in solving numerous problems confronting the aging our community. The members of the Committee started ith the assumption that the present-day needs required ajor emphasis on the problems of the aging and proceeded determine the most effective plan of organization to meet ese needs.

The Committee on the Aging operated through five sub- roups. These five subcommittees of the Committee on the ging, with over eighty members, were active in the fields f Education, Health, Recreation, Economic and Employ- ent, and Housing for the aging. The research and studies f each of these subcommittees have provided considerable formation for an understanding of just what is being one, what groups or associations are participating in the rograms, and what problems are facing the aging in these elds.

The Evaluation Committee report pointed out that al- ough it was clear that this subcommittee structure has en very effective in the past, discussions with the Chair- an and members of the Committee on the Aging show most unanimous agreement that they had reached the oint where the Committee should be organized on a more nforma project basis.

A ne Committee on the Aging, along the lines recom- ended by the Evaluation Committee, has recently been es- blishe by the Health and Welfare Council of the National apital rea, and is now in operation. ■

Gustave A. Moe

Pittsburgh Improves Workshop For The Sightless

FIVE years ago there had been thirty blind workers in the contract division of the Pittsburgh Branch of the Pennsylvania Association for the Blind. Now, there were sixty or seventy. In the past year, wages of the blind workers have gone up fifteen per cent or more. And there isn't as much griping as before, with everyone making more money.

How was this done? How has it been accomplished?

Seven years ago, in the middle of 1951, the Pittsburgh Branch of the Pennsylvania Association for the Blind asked the Pittsburgh Chapter of S.A.M for help in straightening out their Workshop. Losses were staggering. The blind workers were bitter at not receiving more wages, and the future of the project looked bleak.

The Workshop manufactures brooms, brushes, sewed products like ironing board covers, tea towels, and contract work on parts supplied by outside companies.

The Pittsburgh S.A.M Chapter formed a three man committee consisting of: *William Witte*, Vice President of the James H. Matthews and Company; *Donald E. Farr*, Vice President of H. B. Maynard and Company, Inc., and *Charles W. Punton*, Chief Engineer of the Mine Safety Appliances Company. These three men organized a short-range campaign for methods improvements on jobs that were losing money, and a long-range program for a complete reorganization of the Blind Workshop.

For the short-range project they drafted other members of the Pittsburgh Chapter for methods analysis and time studies.

By 1952 the committee members had been made honorary directors of the Pittsburgh Branch of the Pennsylvania Association for the Blind (hereafter referred to as the PBA). Each committee member had duties dealing with administration, operations, cost analysis, and sales. The PBA was

fighting for its life, and the S.A.M committee began an educational program from top to bottom, and began a drive to get accurate costs in a campaign to stem the losses.

Working for the long pull, against strong odds, the S.A.M committee and Director Wrigley steered the PBA back to a sheltered workshop. Previously, the attempt had been to operate an open workshop in direct competition with private industry. While this had worked out during the Korean War period, afterwards they were unable to carry on in a competitive peacetime market. A revised system for keeping cost records was installed.

This was a period of dissension and strife. But James Wrigley, Director of the PBA, held his course. At the suggestion of Don Farr, a PBA Council was organized, with members from the workers, the board of directors, and the supervisory staff. On recommendation of the committee, jobs were studied, using Methods-Time Measurement for the manual operations, and an incentive system was installed. After the dust had settled, production was up an average of 25% and earnings were up an equal amount. The incentive installation spearheaded a training program that raised the quality of the work turned out. Now the PBA could bid on jobs that had more difficult time limits and hope to deliver good product within the established deadline.

When Charles Punton was promoted to a Vice President in the Mine Safety Appliances organization, Dave Wise, Manager of Engineering and Applied Research, Safety Products Division of Mine Safety Appliances Company and also currently S.A.M's Vice President of Chapter Operations, stepped into his shoes. Dave had previously helped work out the methods and job layout on a government job for aprons and performed other methods analyses off and on since 1951. Bill Witte and Don Farr are still carrying on as members of the committee they joined back in 1951.

"The S.A.M program has meant more security and higher earnings for the blind workers," James Wrigley says emphatically. "It has meant more jobs. It has cut losses from a staggering figure to a point where we now break even and don't draw from the Community Chest to keep the Workshop going. We have come a long way." ■

Julian Ziff

Wilmington Chapter Counsels City Government

IN 1957 the Wilmington S.A.M Chapter conducted a work simplification program for employees of the city of Wilmington. The following detailed description of this activity will show how such a program can benefit both the city and the Society.

The chairman of our Civic Affairs Committee, Thomas W. Schwartz, contacted the Chief Engineer of the Street and Sewer Department to offer his services in conducting a training course for city employees. This department was chosen because many of their operations, and therefore their problems, were similar to those encountered in industry, and because it is one of the largest departments in the city government.

The management of the Street and Sewer Department received our offer with enthusiasm. The training program, stressing principles of foremanship and work simplification techniques, was approved and 12 foremen (out of the 19 supervisory personnel in the department) were selected to attend. The length of service of these men was high, ranging up to 35 years in city employment. Typical groups supervised included: 100 men (garbage collection); 30 laborers and 10 pieces of mobile equipment (ash collection); 10 laborers (sewer construction); 12 men (street repairs), etc.

Seven meetings were scheduled—one hour per week at 3:30 p.m. Primarily, attention was devoted to making the men think about their jobs; cooperation was stressed and principals of good foremanship were discussed.

The first meeting was very difficult. This was their first exposure to an organized training program and the men were completely out of their element. They tended to resent the instructor and the fact that they had to attend class. Morale was low since they felt they were performing their duties under difficult circumstances, lack of equipment, need of skilled help, etc. They could not see at first how the "questioning attitude" or talk of "human relations" could apply to their jobs. A general beefing session developed which gave the men opportunity to air some of their problems. (Management was not invited to attend any of the sessions.)

The second meeting was much more successful. A discussion of foreman leadership began to make sense to the men and they were asked to bring a specific human relations problem to the next meeting for discussion.

A round table discussion was used in the third meeting to bring out the basic principles of supervision. By this time the group was participating well and it was interesting to note how well these men really understood the importance of such fundamental requirements as responsibility, authority, ability, know-how, planning, leadership, cooperation and judgment.

The remainder of the meetings (outlined in Exhibit I) introduced the Flow Process Chart and the Work Distribution Chart and reviewed problems submitted by the group.

The over-all program appears to have been a real success. Even those foremen who were most resentful of the course in the beginning acknowledged that they had gained a good deal from the meetings. Departmental management, who supported the program wholeheartedly, stated that they noticed substantial improvement in the morale and performance of the men, particularly in the areas of initiative and pride in their jobs.

EXHIBIT I

PROGRAM OUTLINE
STREET & SEWER DEPARTMENT
FOREMAN TRAINING PROGRAM

Session	Subject
I	Introduction, S.A.M, cooperation with City Administration. Purpose of Work Simplification, open mind, exchange of ideas, human relations.
II	The Foreman—Who is he? Part of management—leader—other qualities. Relations with others.
III	Reviewed qualities of Foreman. Discussion of personnel problems.
IV	Outline of what a city supervisor should consider in his work. Discussion of individual problems.
V	Introduction of Flow Process Chart.
VI	Analysis of Flow Process Charts made by group. Introduction of Work Distribution Chart.
VII	Analysis of Work Distribution Charts made by group. Conclusion, presentation of letter of commendation to each member by Board of Directors.

Although we are moving slowly so as not to oversell the program, the Chapter does plan to present a similar course to other groups in the city government in the future. We feel

the S.A.M has benefited by the favorable publicity received and, of course, the city of Wilmington was given a training course they could not otherwise have afforded. ■

R. L. M. Rice

Indianapolis Chapter Aids Hospitals

SEVERAL years ago the people of Indianapolis successfully completed a program to raise $12,000,000.00 for improved hospital facilities. The high level of interest in hospitals and their problems, plus the success which other S.A.M Chapters had achieved in working with hospitals in their areas, prompted the Indianapolis Chapter to begin an evaluation of the needs of the hospitals in its own city and the Chapter's ability to help with these needs.

Meetings were arranged with the administrative staffs of the various hospitals as a first step. At these meetings, S.A.M representatives told of the work being done in other cities and summarized the qualifications of its members. The hospital staffs indicated the nature of some of their administrative problems, and it became apparent that an advisory type service conducted by S.A.M members would be helpful to the staffs in the solution of their problems.

A S.A.M Hospital Advisory Service Group was organized, reporting to the Vice-President for Special Activities. Volunteers were recruited from within the ranks of our chapter and invitations were extended to non-members who had an interest in the program. These were then organized into teams of two or three persons and the pattern for operation became as follows: A team, along with the program director, first met with the Administrator or Superintendent of the hospital to be studied. The problems were discussed and a decision reached as to which one to tackle. The team was then introduced to the various hospital staff heads with whom they would be working and work started at a pace and direction mutually agreeable to the staff heads and the team.

A project involving new procedures and forms for typing, filing, and routing of laboratory test reports has been completed at Methodist Hospital. It is estimated that this will result in the saving of several typists in addition to speeding up the processing of test reports. At Methodist, also, work is proceeding in two other areas. One concerns methods for receiving, storing, and supplying sterile materials; and the other involves a more efficient means of transmitting doctors' orders and reports to the nursing staff.

Two projects have been completed at Community Hospital. One was a rearrangement of nurses' and doctors' stations for more efficient operation; and the other was a revamping of methods in the central supply system. Community Hospital now has a full-time Industrial Engineer on its staff and work is being done to assist him in setting up a methods program.

At Indiana University Medical Center, a project similar to that at Methodist involving more efficient communications between doctors and the nursing staff is under way.

In addition to projects of this nature, several of the key administrative personnel from the hospitals are attending Work Simplification classes which are conducted by one of the large industries in the city for members of its own staff.

The work done so far indicates that the need and the ability to fill the need exists. ■

Reno J. Testolin

(*Continued from page 17*)

haps an inversion of this concept is necessary, and promotions should be given to those men who see problems, and admit them, rather than to those who report that they have no problems at all, or just a few minor ones. The latter may be suffering from managerial myopia, rather than evidencing managerial mastery. In practice we may be overlooking the old saw, that problems may be solved, but new ones are always being born.

Recapitulation

Throughout this analysis of the relation between reporting and the control function the emphasis has been on the need for modifying the attitudes and procedures of management so that the entire organization can benefit. The position can be summarized in four major points:

(1) Management by "exception" is limited if it is used exclusively, for it does not take full advantage of current information, especially from the more smoothly running areas of the organization. As a modification, management by "systemal reporting and current audit" can provide the advantages of timeliness, crosscheck, and economy. By replacing the post-audit with a current-audit technique within a properly developed system of reports, difficulties that are evolving often can be detected and analyzed long before they cause serious losses.

(2) By the proper application of statistical sampling techniques to "non-exceptional" areas it is possible to maintain a more honest reporting system, as well as stimulate thinking about ways to improve on habitual approaches to problems. Both "exceptional" and "non-exceptional" departments may also be studied advantageously by sampling. The advantages of such techniques are similar to those derived from assiduous application of statistics to quality control problems. Here executives have already learned how fairly small samples can give more information, at lower cost, than volumes of data thrown together into totals which tend to obliterate important variations.

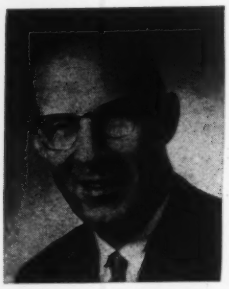
(3) A reporting system must evolve dynamically as it is molded to the changing needs and processes of a business organization. By its own functioning it should induce reevaluation and exchange of ideas on a continuing basis. It needs regular review to utilize and integrate new techniques for processing data so that additional information may be available as the science of communication advances. Reporting systems that just record histories of accomplishments and indicate problems are only doing part of the job they could do.

(4) Management should focus its attention on problems, not personalities to reduce ego-involvement in the reporting system. Effective communication requires increased objectivity toward the issues, and less concentration on the self. The complexities of human relations is far beyond the limitations of this presentation. However, it is apparent that executives may have to re-examine their concepts of promotion and problem management somewhere along the way. ■

We rise as far as we dare to think.
We make the beds in which we lie.
Think tall to be tall.

S. A. M *Newsletter*

Current news of interest to all S.A.M Members, specifically for the 900 Chapter and National Officers of the Society.



HAROLD R. BIXLER
Executive Vice President

NATIONAL OFFICERS ELECTED—The slate of National Officers for the year 1958-59, proposed by the Nominations Committee, was unanimously elected at the last Board of Directors' Meeting, to take office July 1st. Each officer has had many years of distinguished service for the Society in both Chapter and National Activities, as mentioned in the March issue of "Advanced Management". President HOMER E. LUNKEN, Vice President and Director of the Lunkenheimer Company of Cincinnati, automatically becomes Chairman of the Board of National Directors. The new President is PHIL CARROLL, Professional Engineer of Maplewood, N. J.; 1st Vice President is DAUSE L. BIBBY, Executive Vice President of Daystrom, Inc., Elizabeth, N. J.; 2nd Vice President: JAMES E. NEWSOME, Production Manager, Johnson & Johnson, Chicago; Treasurer: FRED E. HARRELL, General Manager, Curtiss-Wright Corp., Marquette Division, Cleveland; Secretary: HUGO W. DRUEHL, President, Arrowhead & Puritas Waters, Los Angeles.

NEW NATIONAL AWARDS PROCEDURE — HAROLD SMIDDY, Vice President, General Electric Co., New York, is Chairman of the new S.A.M National Awards Committee, in line with plans developed during the last year to simplify and make more effective the handling of the various S.A.M National Honors and Awards. The selection of recipients and the conduct of the awards will be carried out by a high level Committee including, also, LAWRENCE A. APPLEY, President of American Management Association; COURTNEY C. BROWN, Dean, Graduate School of Business Administration, Columbia University; LUTHER H. GULICK, President, Institute of Public Administration; and ERWIN H. SCHELL, Head, Department of Business and Engineering, Massachusetts Institute of Technology.

The work of collecting nominations will be done by the National Office, under general direction of the National Secretary, with the auditing of data and preliminary screening to be done by the Research Division as an advisory function of the Committee. National Officers will also serve the Committee, on call, in relation to the technical requirements of individual awards.

REGIONAL DEVELOPMENTS—To provide the basis of growth and expansion throughout the country, a new plan of regional development for S.A.M Chapters has been approved, under the leadership of Vice President DAVID N. WISE. This establishes fifteen regions in place of the present five, as follows: Central, North Central, North Eastern, Metropolitan New York, North Atlantic, Middle Atlantic, South Atlantic, New York State, Southeastern, Southern, Southwestern, Northern California, Southern California, Canadian, Midwestern.

In addition, the following core chapter cities are considered bases for new regions: Detroit, Portland, Puerto Rico and Hawaii. These developments will serve to meet the growing interests and needs of the Society for Chapter, Regional and National Activities on a broad basis, including chapter development and operations, new chapter organization, membership promoting, conferences, programming, contacts with other organizations, etc.

S.A.M—INSTRUMENT SOCIETY OF AMERICA —Recent cooperative relationships have been established with the Instrument Society of America, in line with National S.A.M policy, for promotion of management development and mutual assistance in conference organization, among other activities.

The I.S.A. has approximately 100 senior chapters, with some 10,000 members. It is interested in developing a better understanding of the management and economic problems encountered in the over-all operation of an organization, and in promoting a clearer understanding of top management's problems and the effect of automation and instrumentation in a company. Their National Office is 313 Sixth Ave., Pittsburgh 22, Pa. WILLIAM H. KUSHNICK is Executive Director.

CIVIC AFFAIRS PROGRAM RECEIVES NATIONAL AWARD — The S.A.M Civic Affairs Program, under the leadership of Vice President GEORGE GOETTELMAN, has won additional national recognition, particularly for the Hospital Aid Program, by the Chamber of Commerce of the United States. The Award was presented as a highlight of their annual meeting at their Leadership Recognition Dinner before a distinguished audience of some 2,000 representatives of business and industry, from the U. S. and Canada. It was one of five awards presented to trade or professional associations for outstanding achievement in activities which directly or indirectly provide social, political or economic benefit to the general public at the national, regional, state or community level. Mr. PHILIP M. TALBERT, President of the U. S. Chamber of Commerce, in presenting the award said: "It was made for a significant contribution to community betterment and to strengthening free enterprise."

S.A.M AND NATIONAL SALES EXECUTIVES—Further cooperative relationships between S.A.M Chapters and the local clubs of the National Sales Executives throughout the country will be developed by S.A.M National Vice President AL N. SEARES, who will become President of the N.S.E effective July 1. Mr. SEARES has announced his early retirement as Vice President of Remington Rand, after completion of 35 years of consecutive service with that organization. He will devote his full time to N.S.E, S.A.M, and other management organizations with which he has been affiliated during recent years. During the Summer he will be a member of a 5-man team for the International Cooperation Administration to conduct a course for top executives in South American countries on Advanced Management Training.

S.A.M SURVEY RATES INCENTIVES—"Nations Business", published by the U. S. Chamber of Commerce, in its May issue, reports to its several hundred thousand readers on progress in current S.A.M Reearch Survey about non-financial incentives. In this survey employers reveal what, next to money, motivates their workers and helps to improve employee attitudes. In the first inquiry S.A.M asked 99 companies to list which of 40 non-financial employee incentives worked best for them. The five basic categories for evaluation are: personal recognition, competition, participation, management practices and negative incentives. The replies show the need for considerable further research in this complicated field, according to EUGENE J. BENGE, Chairman of the S.A.M Research Committee, and DR. VINCENT F. FLYNN, S.A.M National Research Director.

MACHINE TOOLS FOR SCHOOLS—The U. S. Department of Commerce, Business and Defense Services Administration, has issued an appeal through S.A.M to its member companies to participate in the government program to train the youth of the nation for improvement of industrial skills. The ultimate objective of this program is to clearly identify the magnitude of the nation's educational requirements for machine tools and related production equipment so that adequate provision can be made to solve this need. A large inventory of machine tools such as lathes, milling, grinding and drilling machines, and related equipment, which is currently becoming excess to government requirements, will be channeled to state and local educational institutions, according to H. B. McCOY, Administrator, Business and Defense Services Administration, U. S. Department of Commerce. The B.D.S.A., which assists in the excess property disposal program, is arranging to review the schools' needs and has been promised the cooperation of leaders in the metal working equipment industries to insure that the applicants get the type of equipment thus suited for their individual requirements. Junior high schools, high schools, technical schools, colleges and universities will be the beneficiaries of this program.

MANAGEMENT AND TECHNICAL POSITIONS AVAILABLE—S.A.M members interested in obtaining additional foreign experience will be interested in the latest available information regarding positions announced by the United Nations Technical Assistance Program. They are in the fields of Economic Surveys, Industrial Development and Productivity, Natural Resources, Development and Power, Public Finance, Statistics, Transport and Communications, Social Development, Housing and Physical Planning and Building, Community Development, Social Services and Public Administration. The positions are located in the large variety of countries abroad, particularly in Asia, Africa and South America. For details write to: Technical Assistance Recruitment Services, United Nations, New York 17, N. Y.

The U. S. Civil Service Commission is now conducting competitive examinations for various positions of an Accounting and Auditing nature. These positions are located in the General Accounting office in Washington and in its regional offices throughout the country. Apply to U. S. Civil Service Commission, Bureau of Departmental Operations, Washington 25, D. C.

NEW S.A.M EMBLEM JEWELRY—Handsome new additions to S.A.M emblems, in the form of personal jewelry, are now available to all members, supplementing the regular member label buttons, past presidents' pin and various key awards. A set consisting of attractive cuff links and tie clasp, gold filled on sterling silver with the S.A.M seal on blue background in modern design, at a cost of $5 for the complete set. Another is a most useful tie chain with the S.A.M seal on gold key of striking design and appropriate size, at a cost of $3 each. These can now be ordered also from the National Office by members, the same as the member lapel pin of 14k gold at $3; past presidents' pin of 14k gold at $7.50; student lapel pin of sterling silver at $.75 each. They make ideal gifts and recognition for chapter officers and committee chairmen as well as general member use and identification with the national society. ■

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plies that our approach be less enthusiastic and opportunistic, for too hasty actions in the promotion of principles or ideas improperly founded or based primarily on unproven opinions, will be a major deterrent to the development, acceptance and progress of our profession. Obviously, we must not be so cautious that our enthusiasm for technical progress is dimmed, nor should we hesitate in making daring mental trips into the area of the unexplored. Both enthusiasm and daring are proper and necessary, but must be objective in nature and conducted with the recognition that there is a fine balance and interdependence between natural and scientific laws. In this area we must find agreement among men as a prelude to general acceptance of our professional work.

The establishment of an unbending organization, the desire to make all conform to as yet unproven specifications, and the adherence to stringent rules and regulations in research and application of Industrial Engineering techniques or ideas, are the most serious hindrances to progress. Obviously, we must have law and order to work together effectively, but every profession must be governed by rules flexible enough to allow for the maximum leeway for individual creativity. Without such tolerance the profession will stagnate. This is especially true to an infant science such as ours.

Finally, we must remember at this time that stringent specifications tend to narrow man's mind and opinions, making him a conformist rather than a creator. Frank Gilbreth above all was a creative man. His wife today, cast in the same mold and with the same aspirations, emphasizes this point.

In summary, therefore, I think that were Frank Gilbreth with us today his message to us would be: Let us rid ourselves of such criticisms that we are merely organization men. Let us be individuals and creators, working to develop an infant society, an infant profession, to maturity for the benefit of mankind, even though its true worth will probably not be appreciated for many more decades. Let us appreciate our importance in contributing to the welfare of others—not just in the business world, but in all fields of human endeavor, especially those so neglected yet so important to human welfare. Finally, let us recognize that we are a strong and motivating force, economically and socially, in promoting a way of life founded on the principles derived from a Supreme Being who planned it this way.

This, then, is the real significance of the Gilbreth Medal which I so gratefully accept. ■

(*Continued from page 21*)

coordinated program is an important function of the "coordinator". He usually ranks a staff position in the organization. The program should include (1) training methods; (2) research studies; (3) cost control plan; (4) a selling campaign to maintain constant interest.

The benefits of coordinated handling and packaging, might be stated as

1—*Reduction of handling and packaging costs.*
2—*Savings in materials and supplies.*
3—*Reduction in transportation costs.*
4—*Better use of storage space.*
5—*Complete product protection.*
6—*Safer working conditions.*
7—*Reduction of inventories.*
8—*Greater emphasis on mechanized handling.*
9—*Reducing time between receiving and distribution.*
10—*Standardization of materials, equipment, facilities and communications.*

Typical duties of the handling-packaging "Coordinater" **(materials handling engineer in most cases)**

a—Develop and secure authorization of procedures governing packaging and related handling, and advising plant personnel in their use.
b—Survey plants and conduct programs for improving techniques in packaging and related handling; and in hanling and shipping of packaged products.
c—Plan and conduct a program for standardization of packaging and related handling practices.
d—Provide technical advice and assistance regarding selection and efficient use of packaging and handling machinery.
e—Assist in the packaging and handling education of supervisory personnel.
f—Maintain and direct the packaging and handling laboratory.
g—Seek out and evaluate new ideas and current developments in the packaging industry and recommend their application.
h—Consult with executive and staff personnel on matters of mutual concern.

Handling and packaging coordinators have the same opportunity for top jobs as other staff men. Responsibility for all phases of the handling-packaging cycle should do much to bring attention of management to the importance of the job. Train well for this capacity. Work hard for success. Think beyond the immediate job. Become interested in the general aspects of the business — finance, sales, public relations, economics, etc. — also in subjects vital of our national economy. *There are valid reasons, if material handling men train themselves properly, that they will be prepared for a top job in industry.* ■

(*Continued from page 7*)

that the training man should indoctrinate management people in the proper procedure, but unless he understands the fundamentals and the intricate problem of management, his procedures and records are likely to become irritants because of their lack of practicality.

In conclusion, we must view the management development function as one of real scope and magnitude. To acquire the needed knowledge and proficiencies is a sobering challenge. Those who feel that experience in the single field of training should automatically fit them to be experts in management development are like the man who tries the big ski jump with the full confidence that he can do it because he has watched the experts.

Today's business is complex. Tomorrow's business will be more complex. A changing breed of men will be needed to fill the complex jobs. Whoever shoulders the job of preparing men for these jobs must profoundly understand the men, thoroughly understand the jobs, and possess an exhaustive knowledge of the new management designs his company is constantly evolving into. If he is willing to learn these things and is a man of sturdy and forceful character, he can make a great contribution to his company's future. He will be working in the area which Roy C. Ingersoll characterizes eloquently as a company's most valuable asset. ■